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**ENT**



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**Version 5.3**

Corrected, Updated, Lighter

PLAB 1 Keys is for **PLAB-1** and **UKMLA-AKT** (Based on the New MLA Content-Map)

**With the Most Recent Recalls and the UK Guidelines**

**ATTENTION:** This file will be updated online on our website frequently!

(example: **Version 2.6** is more recent than **Version 2.5**, and so on)

Key  
1

## Points on Epistaxis Management

### ■ If the patient is hemodynamically compromised:

- Immediate transfer to the Accident and Emergency Department (A&E).
- Use the **first aid measures** to control bleeding:

Lean forward – Open mouth – Pinch the **SOFT** cartilaginous part of the nose firmly for 10-15 minutes (sometime a **WRONG** option is given, which is: pinch the nasal bridge, be careful!). You can provide cold fomentation with an ice-pack on the bridge of nose, not compressing it!

### ☐ If the patient is hemodynamically stable:

- Use the **first aid measures** (mentioned above).

- If still bleeding:

✓ If the bleeding is small and the bleeding can point can be seen

→ **Nasal cautery (with silver nitrate).**

✓ If cautery failed or the bleeding is massive or the bleeding point is invisible:

→ **Anterior nasal packing.**

### Examples:

#### ☐ Case (1):

- **Recurrent** episodes of Epistaxis +
  - Visible blood vessels are seen on the anteroinferior part of the nasal septum bilaterally +
  - **No active bleeding (or small bleeding)** at the time of presentation.
- **Nasal Cautery at one side of the septum initially.**

Note, another valid answer if no active bleeding is

→ **Topical treatment with Naseptin “Chlorhexidine and Neomycin cream”.**

if the bleeding is bilaterally, both sides will **eventually** need cautery. However,

we cannot do cautery of both sides at the same time for risk of **septal perforation**.

**Important:**

Cautery (with silver nitrate) should be avoided if there is massive active bleeding (as the silver nitrate would be washed out if there is active bleeding). However, if the active bleeding is small and the point of bleeding can be located, start with nasal cautery with silver nitrate (if first aids had failed).

**☐ Case (2):**

- **Recurrent** episodes of Epistaxis +
- Visible blood vessels are seen on the anteroinferior part of the nasal septum bilaterally +
- **There is still massive active bleeding** at the time of presentation:

→ **Anterior Nasal Packing Bilaterally**.

*(Even if bleeding point is not visible and he is still bleeding heavily, we do anterior nasal packing).* However, if minimal bleeding → nasal cautery.

Cautery (with silver nitrate) should be avoided if there is **heavy** active bleeding (as the silver nitrate would be washed out if there is active bleeding).

The packing is done bilaterally as the bleeding is bilaterally, and the patient is encouraged to breath per **mouth**. "Typically left in for 24-48 hours"

### ☐ **Case (3):**

- A child with recurrent bleeding especially when he picks his nose.
- Presented to the ER.
- There is still active bleeding for 30 minutes. However, the active **bleeding is minimal** (only after picking his nose or sometimes after coughing).
- Rhinoscopy could **locate the bleeding point (in the little area)**
- First aids have failed to stop bleeding

→ **Nasal cautery with silver nitrate.**

**Note:** if cautery is not in the options:

Pick → **Topical Naseptin “Chlorhexidine and Neomycin cream”.**

(As the bleeding point can be seen and the bleeding is minimal – after nose picking, silver nitrate cautery is tried first. If failed, or of heavy bleeding, or if the bleeding point cannot be seen → nasal packing).

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### ☐ **Case (4):**

#### **Important Last note:**

If the **bleeding** is posterior (from both **mouth** and **nose**). For example: nonstop bleeding from both nose and mouth **after adenoidectomy**

→ **Re-explore under general anaesthesia.**

Key  
2

## Differentiating White Oral Lesions

### Oral Thrush (Oral Candidiasis).



#### ▣ RFx →

✓ **Immunosuppression** (e.g., DM, recent Hx of treatment with antibiotics, long-term steroids intake).

✓ **smoking**.

✓ **elderly**.

#### ▣ **Features** →

- **Thick white marks** ± **Inflamed mouth/ tongue**.
- Note that Plaques might enlarge and become painful and cause discomfort while

eating and swallowing.

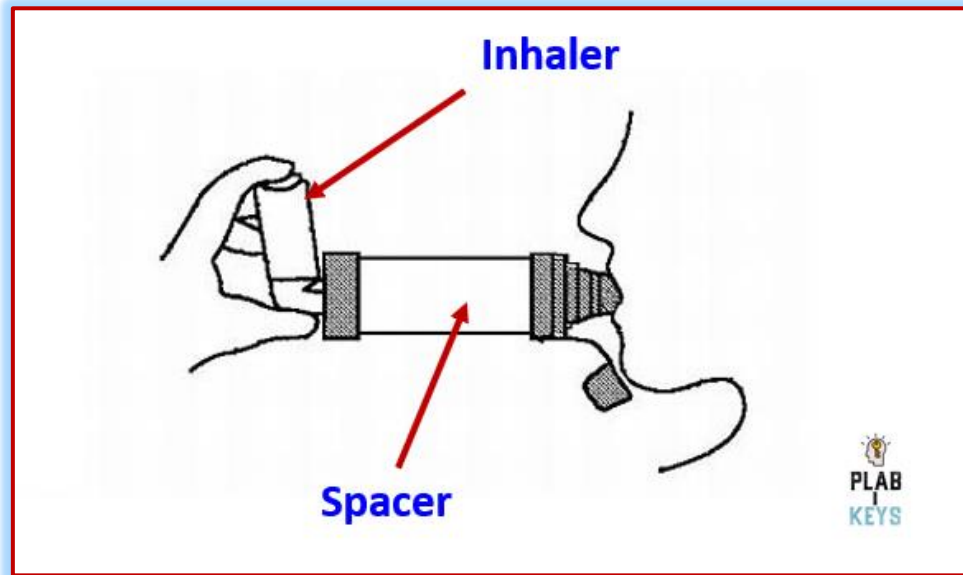
- The white lesions Can be rubbed out (removed).
- It might also present with red inflamed painful sore mouth angles.

☐ **Rx** of oral thrush →

- Stop Smoking.
- Good inhaler techniques, spacer device, rinse mouth with water after use.
- Oral Fluconazole 50 mg OD for 7 days or Fluconazole oral suspension.
- If the infection is mild and localized → **Miconazole gel** “first line”.

In those using Inhaled Steroids such as asthmatics and COPD patients, to avoid oral thrush “Oral Candidiasis”:

- ✓ Rinse mouth with “water” after use.
- ✓ Check adequate spacer techniques.



## Leucoplakia



- Hx of **Smoking**.

- Raised edges, bright white patches, **sharply well defined**.
- The white lesions **Cannot be rubbed out (cannot be removed)**.
- **Rx** → **Stop Smoking** + take **biopsy** (as Leukoplakia is premalignant).

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✓ **Oral Candidiasis** → Thick white marks + Can be rubbed out ± Inflamed mouth.

✓ **Leukoplakia** → White marks, cannot be rubbed out, sharply defined.

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✓ **Pregnancy** → weak immunity → Candida albicans can grow (oral thrush = candidiasis).

✓ **Smoking** is a precipitating factor in both Oral Candidiasis and Leukoplakia.



## Oral Lichen Planus



- Lace like appearance on oral cavity.
- With purple, pruritic (itchy), polygonal, papular rash on flexor surfaces. (4P + F).

### ▣ Rx:

- ✓ Topical steroids → the mainstay of treatment.
- ✓ benzydamine mouthwash or spray is recommended for oral lichen planus.
- ✓ Extensive lichen planus may require oral steroids or immunosuppression.

Key  
3

## Removal of Ear Foreign Body

### ▣ Insect

- ✓ First: Kill insect with Lidocaine 2% or Olive oil or Mineral oil or Alcohol drops.
- ✓ Then: Syringe it out by water irrigation or olive oil.

### ☐ Seed (eg, beans, pea)

→ “Rapid access” not urgent referral to ENT to remove it by Suction with a catheter or by a hook.

*NEVER Irrigate or instil oil in the case of an organic matter (eg, seed, bean, pea) as it would swell causing more discomfort and difficulty to remove.*

### ☐ Super Glue

✓ It could be removed manually in 1-2 days (after desquamation).

✓ Or: refer to ENT if ear drum is involved.

☐ Earwax build up → A few drops of olive oil Or (sodium chloride drops) to soften hard wax. Other methods → Irrigation/ Microsuction.

☐ Batteries → Refer to ENT as they should be taken out **within 24 hours!**

### ☐ Any spherical object

→ (eg, pencil rubber) → remove by a Hook.

◆ If any FB in the ear of an **intellectually disabled** person (eg, autistic child)  
→ Remove under General Anaesthesia by ENT.

◆ If any FB in the ear of a child who is

**in severe pain | extremely restless | agitated | difficult to examine**

→ Remove **under General Anaesthesia by ENT**. (Safer and better).

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▣ **Referral to ENT in the following situations:**

- If the patient requires ***sedation***.
- If there is any ***difficulty*** in removing the FB.
- If the patient is ***uncooperative***. (e.g., a person with autism, mental retardation, very young child to be cooperative).
- If the tympanic membrane is ***perforated***.
- If an ***adhesive*** (e.g., super glue) is in contact with ***tympanic membrane***.

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• **Example 1:**

An autistic child with beans stuck into his right ear

→ **Remove under GA**.

• **Example 2:**

A 5 YO boy has a pea stuck inside his right ear while eating dinner. His TM is intact with a wax covering it.

There was not an option with (suction with a catheter) or (remove by hook)

In this case, pick

→ **Routine referral to ENT.** “Not urgent referral”.

- **Example 3:**

A child presents with a pencil rubber stuck in his right ear.

→ **Remove by a hook.**

- **Example 4:**

A child with a piece of toy stuck in his ear. It is difficult to examine using otoscopy, the child is in pain, crying, restless.

→ **Remove under general anaesthesia.**

- **Example 5:**



A child with this otoscope image has decreased hearing on his left ear. He has no fever and no ear discharge.

**Dx** → **Ear wax**. It needs ear drops first to soften the wax.

**Rx** → **Ear drops** (eg, **olive oil drops**, **NaCl 0.9% drops**, **almond oil drops**),  
→ Other methods (if ear drops not in options) → **irrigation or microsuction**.

**Notes:**

- *Hearing test would be rejected if there is significant wax.*
- *Microsuction is safer and more preferred over irrigation (syringing).*
- *Never use cotton pads in wax as they may worsen wax impaction.*

**Key  
4**

## **Nasopharyngeal Carcinoma**

- Swollen cervical LNs → a **painless** swelling or lump in the upper neck.
- Eustachian tube obstruction → **Otitis media**, **Epistaxis** “recurrent nose bleeds”, **Nasal obstruction**.
- Others: **Conductive hearing loss**, **Tinnitus**.
- RFX: **EBV** (specific), **Smoking**, **Alcohol**.

N.B: **EBV** → **Hodgkin’s lymphoma**, **Nasopharyngeal carcinoma**.

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## **Tonsil Carcinoma**

- **Persistent sore throat** (over weeks).
- Progressive **Hoarseness** of voice.
- Dysphagia and **painful swallowing**.
- Feeling of a **persistent lump** in the **throat**.
- **Palpable lump** on the anterolateral portion of the neck.
- N.B. *the absence of weight loss does not exclude the tonsil cancer!*
- Tonsillar cancer spreads to → **Mandible** (**important**)  
→ Pain in the throat + Trismus (spasm of the jaw muscles, causing the

mouth to remain tightly closed).

- One important differential diagnosis is:

### **Quinsy (Peritonsillar abscess)**

*Peritonsillar abscess usually presents after a Hx of tonsillitis or sore throat for several days.*

- **Quinsy “Peritonsillar abscess” presents with:**

- ✓ Severe **trismus** (which is lockjaw = spasm of jaw muscles),
- ✓ **Sore throat** (of several days),
- ✓ **Dripping of saliva**,
- ✓ **Otalgia** (as CN IX glossopharyngeal nerve supplies both the ears and tonsils),
- ✓ **Hot potato voice**,
- ✓ **uvular deviation**.
- ✓ **Inflamed bulge on one side of a tonsil + painful swallowing.**

→ **Amit for IV antibiotics, incision and drainage.**

Another answer → **Urgent admission to the hospital.**

**(Recently asked): What if both answers were given:**

A) IV antibiotics (IV benzyl penicillin/ Phenoxymethylpenicillin). **OR:**

B) Incision and drainage.

Look at the question phrase:

- If it asks about the **(initial)** step → IV antibiotics.
- If it asks about the **(most appropriate)** Rx → incision and drainage.

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## **Acute Sinusitis in Points**

### ■ **Presenting features:**

- There is usually a Hx of upper respiratory tract infection in the last few days.
- Nasal blockage ± discharge
- Facial pain or pressure (e.g., cheekbone or periorbital pain ± redness)
- ↓ smell, headache.

■ The **vast majority** of acute sinusitis cases are due to viral infections (98%).

■ So, they are mostly self-limiting:

- Symptom's relief is what's needed:



→ **Nasal decongestant containing ephedrine.** (and/or **nasal saline**)

→ **Paracetamol/ibuprofen** for fever and facial pain relief.

- **Nasal steroids** can be considered if symptoms last > **10 days** without a significant improvement.

■ It is **rarely bacterial**. Thus, no need to start antibiotics unless necessary.

- **Notes:**

✓ Acute sinusitis → **Oral paracetamol/Ibuprofen**.

✓ If 10 or more days without improvement → **Nasal corticosteroids**.

✓ Antibiotics are rarely used.

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## **Plummer Vinson Syndrome:**

✓ **Iron Deficiency Anemia (IDA)**,

✓ **Glossitis**,

✓ **Dysphagia** (due to post-cricoid oesophageal web).

It is a risk factor for **oropharyngeal carcinoma**

It is common in **postmenopausal women**.

## Plummer Vinson syndrome

- Paterson Kelly syndrome or Sideropenic Dysphagia
- Post cricoid web in esophagus
- Iron deficiency anemia
- Glossitis
- Koilonychia
- Treatment – Balloon Dilation



## Paranasal sinus tumour

- Pressure / pain / Tenderness / Swelling in the **cheek**, **upper teeth**.
- **Blood** seen in the **nasal discharge**.
- **Nasal Obstruction**.
- Hx of **chronic sinusitis**.
- If the orbit is involved → **Epiphora** (excessive watering of the eye), **Diplopia**.

**Key  
5****Otitis Media (OM)**

- Earache (otalgia) = ie, ear pain.
- Usually follows viral URTI (eg, tonsillitis).
- ± Fever, Vomiting, Irritability.
- Tympanic membrane: might be Red, Yellow, or Cloudy.

It might also be bulging, or perforated, with or without purulent discharge.

- Ruptured tympanic membrane alleviates the pain.

### ▣ Management of Acute Otitis Media in Short ▣

- ▣ OM is usually viral (requires **analgesics** and **supportive** treatment only).

Ie, if mild symptoms → No treatment required (only supportive). ✓

- ▣ If signs of bacterial (e.g. High fever, cervical lymphadenopathy)

→ **Oral Amoxicillin**.

✓ If the tympanic membrane ruptured and a discharge came out → this would relieve the ear pain. What is next? → Reassure and review in 6 weeks (as the membrane heals on its own within 6 weeks).

✓ If it does heal in 6 weeks → Consider **tympanoplasty** (TM repair).

(**Note:** if it is suspected to be bacterial eg, purulent foul-smelling discharge, fever, or persistent pain after discharge → Consider oral antibiotics).

## Otitis Externa

- Hx of **swimming, High humidity, travel**
  - + Painful ear
  - + **pus** or serous fluid inside the ear canal.
- **Serous** discharge.
- **Tragal Tenderness.**
- Starts with **itching** → then pain in the ear.
- **Rx:**

A **combination** of Acetic Acid + Aminoglycoside + Topical Corticosteroids

**N.B.** Avoid **Aminoglycoside (e.g. gentamicin)** if there is tympanic membrane perforation as it is ototoxic.

**Ciprofloxacin** drops could be used instead.

\* The treatment in the exam is usually (**Topical Gentamicin**)

or (**Topical Gentamicin + Hydrocortisone**).

\* If these were not in the choices, pick (**Acetic Acid 2%**).

<p><b>Key 6</b></p>	<p style="text-align: center;"><b>Trauma to the ear</b></p> <p>(e.g., during fight, Slap to the ear)</p> <p>→ intense <b>otalgia</b>, <b>bleeding</b> per ear, <b>ringing</b> inside the ear (tinnitus), temporary <b>decreased hearing</b> (Conductive).</p> <ul style="list-style-type: none"> <li>• The first investigation is → <b>Otoscopy</b> (suspected <b>perforated eardrum</b>).</li> </ul>
<p><b>Key 7</b></p>	<p>Hx of travel, presents with earache and pus in the ear canal. Management?</p> <p>→ (<b>Acetic Acid 2%</b>). (Otitis Externa).</p> <p>Or (<b>Topical gentamicin</b>).</p> <p>Or (<b>Topical Gentamicin + Hydrocortisone</b>).</p> <p>England's guidelines recommend the following for OE "Otitis Externa":</p> <ul style="list-style-type: none"> <li>✓ Acetic acid 2% 1 spray TID for 7 days (First line).</li> <li>✓ Neomycin sulphate + Corticosteroids 3 drops TID for 7 to 14 days. (2<sup>nd</sup> line).</li> </ul>
<p><b>Key 8</b></p>	<p>Tonsillar carcinoma usually metastasizes to the → <b>Mandible</b></p>
<p><b>Key 9</b></p>	<p>Again,</p> <p><b>URTI</b> can be followed by <b>Acute Otitis Media</b> (<b>Sever pain in the ear</b>).</p>

<p><b>Key 10</b></p>	<p><b>Mandibular lumps</b> and any <b>salivary gland masses</b> need to be investigated by:</p> <p>→ <b>U/S Guided Fine Needle Aspiration (FNAC).</b></p> <p>☐ <b>Example:</b></p> <p>Free and mobile submandibular mass that grows rapidly with skin induration</p> <p>→ <b>FNAC.</b></p>
<p><b>Key 11</b></p>	<p style="text-align: center;"><b>Chronic Sialadenitis:</b></p> <p><b>Inflammation of the salivary glands</b></p> <p><b>Chronic Sialadenitis</b> → often 2ry to <b>Sialolithiasis</b> (Salivary stones) which leads to <b>decreased salivary outflow.</b></p> <p>☐ <b>Features:</b></p> <ul style="list-style-type: none"> <li>✓ Swelling in the submandibular region which can become enormously enlarged.</li> <li>✓ The swelling is <u>more painful and prominent on chewing</u> (This indicates obstruction due to salivary stones).</li> <li>✓ Tenderness and redness.</li> </ul>

✓ Sour taste in the mouth (No saliva), dry mouth (no saliva).

✓ Decreased mobility of the jaw.

- If got infected → fever and rigors (may cause septicaemia).

### An important DD:

◆ **Mikulicz syndrome** → a triad of:

✓ Symmetrical enlargement of all salivary glands.

✓ Narrowing of the palpebral fissures due to enlargement of the lacrimal glands.

✓ Parchment-like dryness of the mouth.

- It may occur 2ry to **sarcoidosis**, tuberculosis (TB) or lymphoma.

**Key  
12**

In a patient with epistaxis with normal labs (normal Hb, Platelets, PT, APTT)

The likely cause → **Anatomical defect** or **Trauma**.

N.B. **Trauma** to the nose is the most common cause of epistaxis, it includes nose picking, excessive nose blowing, FB insertion.

Key  
13

## **Rinne and Weber tests using tuning fork. (SNHL vs CHL)**

### **What are Rinne and Weber tests?**

✓ Rinne and Weber tests are exams that test for hearing loss.

✓ They help determine whether a patient may have conductive or sensorineural hearing loss.

- A Rinne test evaluates hearing loss by comparing air conduction to bone conduction. Air conduction (AC) hearing occurs through air near the ear, and it involves the ear canal and eardrum. Bone conduction (BC) hearing occurs through vibrations picked up by the ear's specialised nervous system.

- A Weber test is another way to evaluate conductive and sensorineural hearing losses.

▣ **Conductive hearing loss (CHL)** occurs when sound waves are unable to pass through the middle ear to the inner ear. This can be caused by problems in the ear canal, eardrum, or middle ear.

▣ **Sensorineural hearing loss (SNHL)** occurs when there's damage to any part of the specialised nervous system of the ear. This includes the **auditory nerve**, **hair cells in the inner ear**, and other parts of the **cochlea**.

Ongoing exposure to loud noises and aging are common reasons for this type of hearing loss.



***Causes of Hearing Loss in Older Adults***

SITE/TYPE OF BLOCKAGE	EXAMPLES OF ETIOLOGY
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**Conductive hearing loss (CHL)**

Obstruction of external auditory canal	Cerumen ( <u>Wax obstruction</u> ); foreign body; debris from otitis externa; large exostoses, osteomas
Impairment of tympanic membrane function	Perforated tympanic membrane; tympanosclerosis
Middle ear conditions	Otitis media with effusion; otosclerosis; cholesteatoma; disarticulation of ossicular chain; glomus tumours

**Sensorineural hearing loss (SNHL)**

No site/types	Age-related hearing loss (Presbycusis); noise trauma; medications; autoimmune disease; mechanical trauma (e.g., temporal bone fracture); Meniere disease; infection (e.g., meningitis, labyrinthitis); neoplasm (e.g., acoustic neuroma)
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**NOTE:** Causes are in approximate order of most to least common within each category.

## **How to conduct Rinne and Weber tests?**

Rinne and Weber tests both use 512-Hz tuning forks to test how a patient responds to sounds and vibrations near your ears.

### **Rinne test**

- The doctor strikes a tuning fork and places it on the mastoid bone behind one ear.
- When the patient can no longer hear the sound, he signals to the doctor.
- Then, the doctor moves the tuning fork next to the patient's ear canal.
- When the patient can no longer hear that sound, the patient once again signals the doctor.
- The doctor records the length of time the patient hears each sound.

### **Weber test**

- The doctor strikes a tuning fork and places it on the middle of the patient's head.
- The patient notes where the sound is best heard: the left ear, the right ear, or both equally.

## **What are the results of Rinne and Weber tests?**

Rinne and Weber tests are non-invasive and cause no pain, and there are no

risks associated with them. The information they provide determines the type of hearing loss a patient may have, especially when the results of both tests are used together.

### Rinne Test results

- **Normal** hearing will show an air conduction time that is twice as long as the bone conduction time (i.e.  $AC > BC$ ).
- In other words, a patient will hear the sound next to his ear twice as long as he will hear the sound behind his ear over the mastoid bone.
- If the patient has **conductive hearing loss**, the bone conduction is heard longer than the air conduction sound (i.e.  $BC > AC$ ).
- If the patient has **sensorineural hearing loss**, air conduction is heard longer than bone conduction, but may not be twice as long.

### Weber Test results

- **Normal** hearing will produce equal sound in both ears.
- **Conductive loss** will cause the sound to be heard best in the abnormal ear.
- **Sensorineural loss** will cause the sound to be heard best in the normal ear.

#### ➤ General Principles:

- Rinne's test → (when placing the vibrating fork over the mastoid bone

and then around 1 cm from the ear)

If  $BC > AC \rightarrow$  Conductive hearing loss in this side (Negative or Abnormal Rennie's)

- **Weber's Test** (when placing the fork on the middle of the forehead):
  - If the sound is localized to the Unaffected side (to the normal ear)  $\rightarrow$  Unilateral SNHL (sensorineural hearing loss).
  - If the sound is localised to the Affected side (Abnormal air)  $\rightarrow$  confirms that side has unilateral CHL (Conductive hearing loss).

**If you are still unable to understand this, the following schedule summarizes all possible cases.**

	Weber without lateralisation	Weber lateralises left	Weber lateralises right
Rinne both ears $AC > BC$	Normal	Sensorineural loss in the right ear	Sensorineural loss in the left ear
Rinne left $BC > AC$		Conductive hearing loss in the left ear	Combined loss: conductive and sensorineural loss in left ear
Rinne right $BC > AC$		Combined loss: conductive and sensorineural loss in right ear	Conductive hearing loss in the right ear
Rinne both ears $BC > AC$	Conductive loss in both ears	Combined loss in right and conductive loss in left	Combined loss in left and conductive loss in right

In short,

- $BC > AC \rightarrow$  CHL "Conductive hearing loss" in the SAME side
- $AC > BC$  (normal) and Weber's test lateralises to one side  $\rightarrow$  SNHL in the OTHER side.
- e.g., if Weber lateralises to the right  $\rightarrow$  it is either right conductive (confirmed by Rinne's) OR Left Sensorineural hearing loss.

### ■ Example (1):

✓  $BC > AC$  on the right side.

✓ Weber's best heard on the right ear.

$\rightarrow$  Right Conductive Hearing Loss.

### ■ Example (2):

✓  $AC > BC$  bilaterally.

✓ Weber's best heard on the right ear.

$\rightarrow$  Left Sensorineural Hearing Loss.

### ■ Example (3):

✓  $AC > BC$  bilaterally.

✓ Weber's: equal sounds on both ears (does not lateralise to either side).

→ **Normal (No hearing loss).**

**Key  
14**

**Meniere's Disease**: DVT + Fullness

- **D**: Deafness (Usually Unilateral – *SNHL*)
- **V**: Vertigo
- **T**: Tinnitus
- **Fullness** (feeling of fullness or pressure in the affected ear).
- +/- Nausea and Vomiting,
- Lasts from minutes to hours.
- **Management**: “*careful for the question words, both can be asked*”!
- To terminate the acute attack **Prochlorperazine** (Buccal or IM)  
or: Promethazine, **Cyclizine**, Cinnarizine.
- To prevent further attacks (↓ the frequency of the episodes) → **Betahistine**.

**Note**, the feeling of pressure inside an ear may not always be given.

**Important Note:**

Feeling of fullness or pressure in the affected ear is more classic for Meniere's disease. HOWEVER, if there are other symptoms of cranial nerve involvement e.g. diplopia, facial drooping, facial sensation loss, the likely diagnosis will be **acoustic neuroma** despite having the pressure sensation.

N.B. **MRI is normal** (which excludes Acoustic Neuroma).

N.B. Labyrinthitis is usually preceded by **Viral URTI**. (Sudden Vertigo and Vomiting + hearing loss/ tinnitus after URTI).

**Key 15** AC > BC Bilaterally → **Not** Conductive hearing loss  
Weber's does not lateralize → **Normal**

AC > BC Bilaterally → **Not** Conductive hearing loss  
Weber's lateralizes to **Left** → **Right** SNHL

SNHL means a defect in cochlea, hair cells in the inner ear, cochlear nerve or brain stem:

→ Do **MRI scan**. (Careful! Not otoscopy!)

**So, if a patient presents with hearing loss and found to have SNHL on Rinne's and Weber's: (AC > BC bilaterally) + Weber's lateralizes to one side:**

→ **Order MRI**.

✓ If  $AC > BC \rightarrow$  It is either Normal or SNHL (Not conductive).  
 ✓ If  $BC > AC \rightarrow$  Conductive hearing loss on the same side of lateralization.  
 Weber lateralizes to the intact ear in SNHL and to the affected ear in Conductive HL.

Key  
16

## Vestibular neuritis VS Labyrinthitis

☐ **Vestibular neuritis**: inflammation of vestibular nerve “vestibular neuropathy”.

**3 Vs**: Vertigo, Vomiting, Viral URTI.

Rx to relieve symptoms  $\rightarrow$  Prochlorperazine.

☐ **Labyrinthitis**: inflammation of vestibular nerve **and** labyrinth.

• Both have attacks of vertigo, nausea and vomiting that are aggravated by moving the head and both are preceded by URTI (runny nose, cough, fever).

- However, **vestibular neuritis** *does not* have hearing loss or tinnitus
- While **labyrinthitis** has SNHL  $\pm$  Tinnitus. “imp v”.



**In summary:**

- Viral URTI followed by attacks of vertigo +/- Nystagmus, Vomiting

→ **Vestibular neuritis.**

Give → Prochlorperazine

- Viral URTI followed by Vertigo + **Hearing loss/Tinnitus**

→ **Labyrinthitis.**

N.B. Vestibular neuritis attack lasts **hours** or **days** whereas Benign paroxysmal Positional Vertigo (BPPV) lasts a few **minutes**.

**Key  
17**

- ☐ Injury to ear pinna with **INTACT** tympanic membrane

→ **No further investigations needed** (self-limiting).

- ☐ If **Painful** → **give analgesics**.

- ☐ If **hematoma** → **refer to ENT**.

**Key  
18**

**Otitis Media with Effusion (OME) or Glue Ear**

(Eustachian Tubes Dysfunction)

- It is the commonest cause of conductive hearing loss in **children** (peaks at 2 Y/O). usually mild bilateral CHL.
- ± Hx of Recurrent OM **OR** URTIs **OR** oversized adenoids.
- Tympanic membrane is either Retracted “more common” or Bulging.
- It might be **bluish grey, dull or yellow ± with an air-fluid level**.
- Presents usually with hearing loss “Conductive”.

- **Common Examples in PLAB 1:**

✓ A child raises the TV volume up.

✓ A child is doing poorly in school.

✓ A child lacks concentration and is socially withdrawn.

→ Refer them for audiogram (audiometry). “Audiogram will show conductive hearing loss more commonly bilaterally”

## ■ **Treatment:**

- **If first visit or recently diagnosed** with OME (**BUT NO OBVIOUS HEARING LOSS YET**)

→ **Reassurance and review in 3 months** (as it can resolve spontaneously).

- But if **obvious hearing loss (eg, he raises TV volume up)**

→ **Pure tone audiometry from the start.**

- **If persists over 3 months and bilateral:**

→ **Grommet insertion** "i.e. surgery".

*"Insertion of a small plastic or metal tube into the tympanic membrane to relieve pressure in the middle ear. It is used in the management of otitis media with effusion and in recurrent acute otitis media".*

- **If surgery is contraindicated or rejected by the patient:**

→ **ear aids.**

### **More clarification on Rx of OME (Important):**

■ Note that if it is obvious that the child is having hearing loss (eg, he gets close to the TV, he raises the TV volume) then there is a concern for hearing loss. Therefore, **pure tone audiometry** is needed (without a delay for 3 months). We need audiometry to determine the severity of the CHL.

- If the conductive hearing loss (CHL) is not severe (based on the audiometry results) → then **3 months is given and then review with another audiogram.**

- After 3 months, review with another audiometry:

If spontaneous resolve occurs, then that's good. But if hearing loss becomes more severe, then **refer to ENT for consideration of grommets insertion.**

- Always encourage the parents to **stop smoking** as it is an important risk factor for their children's glue ear.
- Thus, sometimes, the answer would be → **Advice parents to quit smoking.**

*Parental smoking is a risk factor for OME. So, encourage them to stop smoking and review the child in 3 months.*



### Remember that:

**Otosclerosis** is the commonest cause of **progressive conductive hearing loss** in **Young adults** (15-45 Y/O).

• **Note:** Children with **down syndrome** are specifically susceptible to **OME** and they need yearly hearing checks using **pure tone audiometry**.

• **Note: Pregnancy accelerates the progression of otosclerosis.**

Key  
19

### Otoscopy findings in some ear conditions:

- **Bluish grey, or yellow TM with an air fluid level:**  
→ **Otitis media with effusion (glue ear).**
- **Flamingo pink blush TM (Schwartz sign) → Otosclerosis.**
- **Inflamed TM with Cartwheel appearance of vessels**  
→ **Acute suppurative OM.**

**Cart wheel appearance**



**Otoscopy examination in Otosclerosis:**

**Schwartz's sign  
(flamingo red)**

**Usual finding  
is a normal  
tympanic  
membrane**





## Otosclerosis

- The commonest cause of **progressive conductive** hearing loss in the Young adults (15-45 Y/O).
- ↑ stapes bony growth “turnover”.
- Family Hx: 50% is genetic.
- Bilateral in 80%.
- Other symptoms: Tinnitus and Vertigo (not always).
- More in females (2:1).
- **Conductive** hearing loss (Low tone loss).

- Difficulty hearing in a **quiet** environment (e.g., on the phone) (Low frequency hearing loss), i.e., the patient hears better in a noisy environment.

- **Pregnancy** accelerates the progression of otosclerosis.

- No curative treatment.

- **Management:** Stapedectomy **Or** Stapedotomy with Prosthesis insertion.

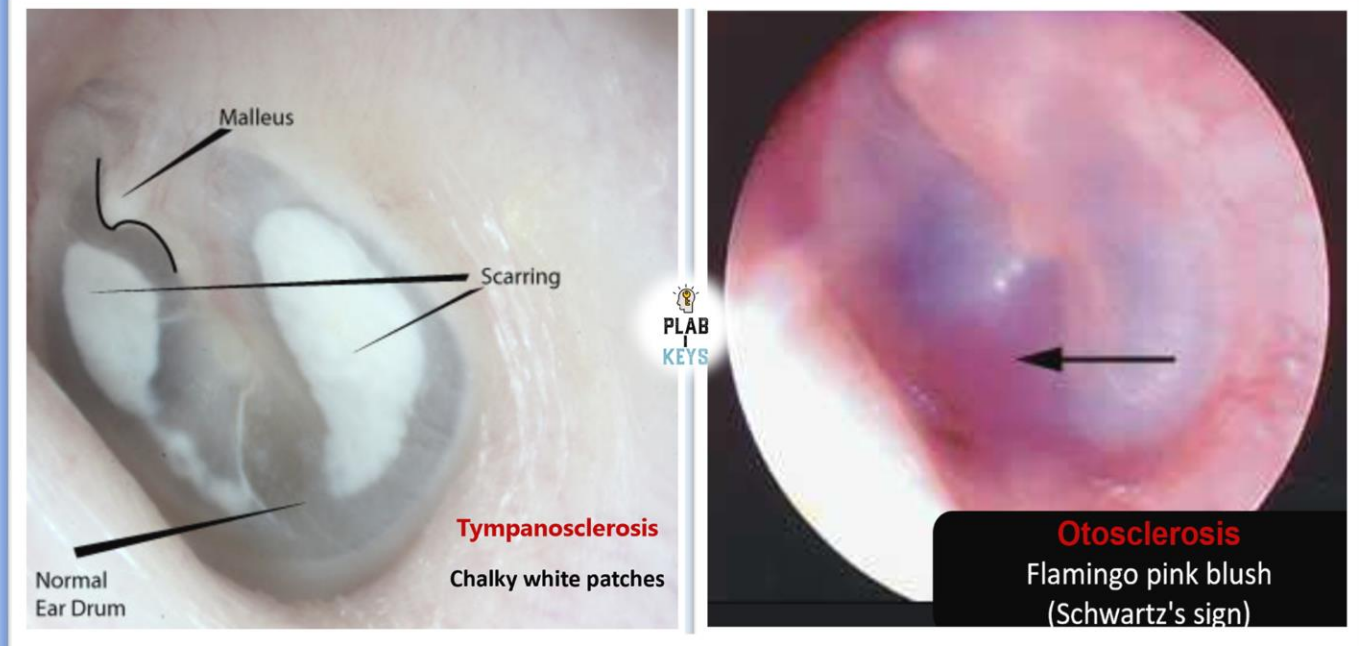
- If not fit for surgery → Bilateral hearing aids.

---

## **Tympanosclerosis**

✓ CHL “Conductive hearing loss”.

✓ Look for **Chalky white patches** over the eardrum.



Key  
20

## Acquired Cholesteatoma

- Collections of keratinizing squamous epithelium in the middle ear that is able to expand, erode and destroy the adjacent structures, causing TM perforation and ossicles damage.
- It is neither a cholesterol nor a tumour.
- **Pearly white mass BEHIND** the tympanic membrane.  
(Remember → white chalky mass **ON** the TM → Tympanosclerosis)
- **Chronic Foul-smelling purulent discharge** (otorrhea).
- Otoscopy may reveal canal filled with **pus/mucus/granulation** tissue.
- Hx of **recurrent Otitis Media**.



- (**Cholesteatoma is poorly responsive to antibiotics**).
- It causes **Conductive** hearing loss.

### **In Congenital Cholesteatoma:**

- The same but the presenting patient is a child (6 months – 5 years).
- Usually there are neither Hx of recurrent OM nor TM perforation.

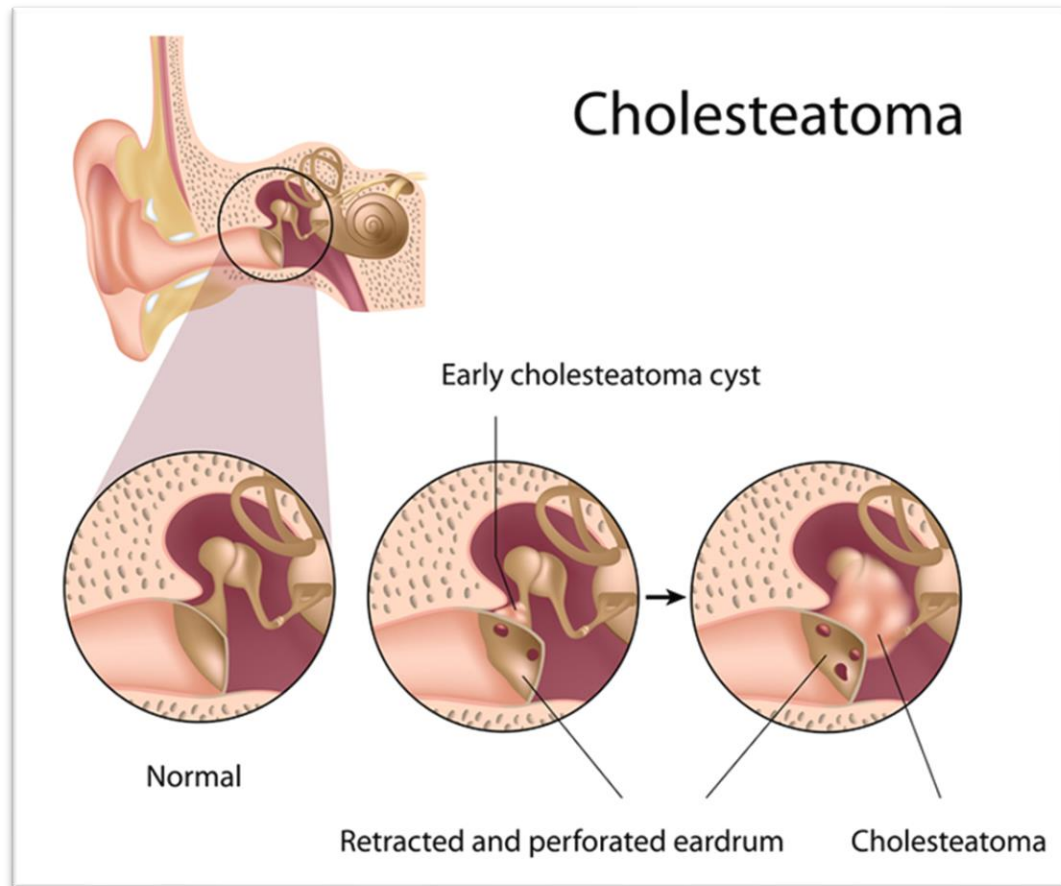
N.B. Because of the ability of Cholesteatoma to erode and damage the adjacent structures, the presenting symptoms may include facial paralysis, vertigo, headache besides deafness and earache.



**Cholesteatoma: Pearly white mass BEHIND the TM**

If a patient present to the GP with cholesteatoma

→ **URGENT referral to ENT**. *Important.*



### ● **Management of cholesteatoma:**

→ Patients are referred to ENT (urgent) for consideration of surgical removal.

**Key  
21**

## **Acoustic Neuroma (Vestibular Schwannoma)**

“Pressure effect on cranial nerves”:

- **Vestibular nerve CN VIII (8<sup>th</sup>)** → DVT (Deafness, Vertigo, Tinnitus).
- **Facial nerve CN VII (7<sup>th</sup>)** → Facial Palsy/ Facial drooping.
- **Abducens nerve CN VI (6<sup>th</sup>)** → Diplopia to the same side.
- **Trigeminal nerve CN V (5<sup>th</sup>)** → Loss of corneal reflex and facial sensation.
- ± Intracranial Pressure manifestations (e.g. Headache) as it is a space-occupying lesion.
- **Feeling of “fullness” in the affected ear.**

### **Important Note:**

Feeling of fullness or pressure in the affected ear is more classic for Meniere’s disease. HOWEVER, if there is other cranial nerve involvement e.g., diplopia, facial drooping, facial sensation loss, the likely diagnosis will be **acoustic neuroma** despite having the pressure sensation.

### **Important Note:**

**Acoustic neuroma** (vestibular schwannoma) is usually commonly associated with **neurofibromatosis type 2**.

**Remember this association:**

Acoustic neuroma **WITH** Neurofibromatosis

### Example:

A man with bilateral sensorineural hearing loss + Vertigo + Tinnitus + Hs of neurofibromatosis type 2

→ **Acoustic neuroma** → do **MRI cerebellopontine angle** (or **MRI brain**).

**Dx** → **MRI of the cerebellopontine angle**

(or MRI of the internal auditory meatus) then **MRI Brain**.

### Note:

- DVT (Deafness, Vertigo, Tinnitus) + heaviness/pressure/fullness in ear

→ **Meniere's disease.**

- DVT (Deafness, Vertigo, Tinnitus) + CN Palsy

→ **Acoustic Neuroma.**

Remember that: **MRI in Meniere's disease is NORMAL.**

N.B. *Bilateral Acoustic Neuromas are seen in Neurofibromatosis type 2 (autosomal dominant).*

<p><b>Key 22</b></p>	<div data-bbox="542 262 1177 325" data-label="Section-Header"> <h2 style="text-align: center;">Malignant Otitis Externa</h2> </div> <div data-bbox="134 409 1583 1249" data-label="List-Group"> <ul style="list-style-type: none"> <li>• <b>Not</b> Malignancy or Cancer, but called so as it is an <u>aggressive infection</u> that can spread to the bones of the face and jaw and deeper into the ear.</li> <li>• It is usually caused by <u>pseudomonal</u> infection of the auditory canal which can cause gangrene/necrosis → <b>black coloured skin</b> near or within the ear canal.</li> <li>• When this necrosis extends deeper to the facial nerve → <b>Facial palsy</b> (in 50% of the patients).</li> <li>• <b>Severe pain</b> in the ear, <b>Purulent foul</b> discharge, <b>conductive</b> hearing loss.</li> <li>■ <b>Need urgent ENT referral</b> as it can be fatal! (50% death if left untreated).</li> <li>■ <b>Important Risk Factors</b> → <u>Immunocompromised</u> patients e.g., <u>DM</u>. ✓</li> </ul> </div>



▣ **Diagnosis** → **CT scan** is typically done. “CT scan of the temporal bones”.

▣ **Treatment:**

✓ Non-resolving otitis externa with worsening pain should **be referred urgently to ENT**.

✓ **IV antibiotics that cover pseudomonal infections** e.g., ciprofloxacin.

**Key 23** Sensorineural Hearing loss + Dizziness ± others such as Tinnitus  
→ Suspect Acoustic Neuroma/ Meniere's?

	<p>➔ Request <b>MRI</b> of the internal auditory canal.</p> <p>(benign mass in the cerebellopontine angle if acoustic neuroma).</p>
<b>Key 24</b>	<p>Earache (painful ear) that resolves when a pus discharge per ear occurs</p> <p>➔ <b>Acute Otitis Media</b> with tympanic membrane perforation which releases the pressure and thus alleviates the pain</p> <p>➔ Give 5-day course of <b>Oral Amoxicillin</b>.</p> <ul style="list-style-type: none"> <li>- If a child who is allergic to penicillin ➔ <b>erythromycin</b> or <b>clarithromycin</b>.</li> <li>- The commonest organisms in OM</li> </ul> <p>➔ RSV ■ H. Influenza ■ Strept. Pneumoniae ■ Strept. Pyogenes.</p> <ul style="list-style-type: none"> <li>- N.B. <b>Most cases are viral and self-limiting</b>.</li> <li>- The commonest viral OM ➔ RSV (Respiratory Syncytial Virus) and Rhinovirus.</li> </ul> <p><b>Summary:</b></p> <ul style="list-style-type: none"> <li>• Perforated OM ➔ <b>Oral Amoxicillin</b></li> <li>• If Allergic to Penicillin ➔ <b>Erythromycin</b> or <b>Clarithromycin</b>.</li> <li>• Otitis Externa ➔ Topical Aminoglycoside (<b>Gentamicin</b>) + Topical <b>Acetic Acid</b></li> </ul>

+ Topical **Corticosteroids**.

- If perforated TM → Avoid Gentamicin as it is ototoxic. (**Ciprofloxacin drops** could be used instead).

**Key  
25**

**Candida Albicans** can cause **Oesophageal Candidiasis** which presents with

→ **Dysphagia** +

→ **Odynophagia** (pain and burning sensation on swallowing food or fluid).

**Key  
26**

Painless, mobile lump in the anterior midline neck that moves up with tongue protrusion

→ **Thyroglossal Cyst**.

### Notes:

\* it is the commonest neck congenital anomaly.

\* it can become painful if infected.

\* a thyroglossal cyst moves up with tongue protrusion because it is attached to the thyroglossal tract which attaches to the larynx by the **peritracheal fascia**.

- A lump that moves up with swallowing → Goitre? Large Thyroid nodule?

- A fluctuant lump and transilluminate in the neck → Cystic hygroma?



**Key  
27**

## Benign Paroxysmal Positional Vertigo [BPPV]

- Sudden onset of **vertigo** that is aggravated by a **change in head position** and lasts a few seconds to a few minutes ± Nausea.
- “It is important to remember that it lasts only a few seconds – a few minutes”
- Occurs usually during turning over in bed or lying down.
- Kindly note that nystagmus can be seen in BPPV as well.
- **Dx** → Hallpike's Manoeuvre.
- **Rx** → Epley's Manoeuvre = repositioning technique.
- “Apply Epley for Treatment”
- N.B. mostly resolves spontaneously.

Benign paroxysmal positioning vertigo (BPPV) is a peripheral vestibular disorder involving the semicircular canal usually but not exclusively the posterior semi-circular canal (PSCC). **Imp vv**

**Key  
28**

Bone conduction is normal, Air conduction is reduced symmetrically bilaterally (this means **BC>AC** → Bilateral Conductive hearing loss) Weber's test does not lateralize (as the conductive deafness is symmetrical and bilateral).

+ Child

+ does not hear the teacher well in class

⇒ Think of OME (Otitis media with effusion) = (Glue ear).

**Key  
29**

## **Removal of Ear Foreign Body**

- **Insect:**

- 1<sup>st</sup>: Kill it with Lidocaine 2% or Olive oil or Mineral oil. “any is a valid answer”
- 2<sup>nd</sup>: Syringe it out by water irrigation or olive oil.

- **Seed (e.g., beans) →** Suction with a catheter, or Removal by a hook.

✓ NEVER Irrigate it as it would swell causing more discomfort and difficulty to remove.

✓ Sometime, a “rapid access” not urgent referral to ENT is made so the ENT specialist removes the pea by a hook or a catheter suction in a few days. (imp ✓)

- **Super Glue**

- It could be removed manually in 1-2 days (after desquamation).
- Or: refer to ENT if ear drum is involved.

- **Earwax build-up →** a few drops of olive oil or NaCl 0.9% or sodium bicarbonate 5% or almond oil to soften hard wax.

If not in the options → Microsuction or irrigation (syringing).

- **Batteries →** Refer to ENT as they should be taken out within 24 hours.

- **Any spherical object →** Remove by a Hook.

- If any object from these is in an intellectually disabled person (e.g., Autistic

child) → Remove under General Anaesthesia.

- If any object from these is in a person who is in severe pain, extremely agitated and difficult to examine → Remove under General Anaesthesia.

▣ Referral to ENT is done in the following situations:

- If the patient requires **sedation**.
- If there is any **difficulty** in removing the FB.
- If the patient is **uncooperative**.
- If the TM is **perforated**.
- If an **adhesive** (e.g., super glue) is in contact with **TM**.

**Scenario:** an autistic child with beans stuck into his ear

➔ **Remove under GA.**

**Key  
30**

**Sialadenitis = infection of salivary glands**

- **Acute Sialadenitis** → often due to **Dehydration** (e.g., post-op) (dehydration leads to overgrowth of oral flora and presents with erythema, pain, tenderness).
- **Chronic Sialadenitis** → often 2ry to **Sialolithiasis** (Salivary stones) which

leads to ***decreased salivary outflow.***

**Scenario:** A patient presents with pain and swelling in the submandibular area that have been present for weeks. The area is tender on palpation. The pain is unilateral and MORE PROMINENT on chewing (During eating).

→ **Chronic Sialadenitis.**

**Key  
31**

## Hearing Tests in Children

- **Below 6 Months:** - **Otoacoustic Emissions** (OAE), or:  
- **Audiological Brainstem Responses** (ABR)
- **6 Months – 18 Months** → **Distraction Testing**
- **2-4 Years:** - **Speech Discrimination**, or:  
- **Conditioned Response Audiometry** (CRA)
- **5 years** → **Pure Tone Audiogram** (PTA)

Hearing Tests in Children (**Important v**)

**Key  
32**

## Ear Furuncle (Boil)

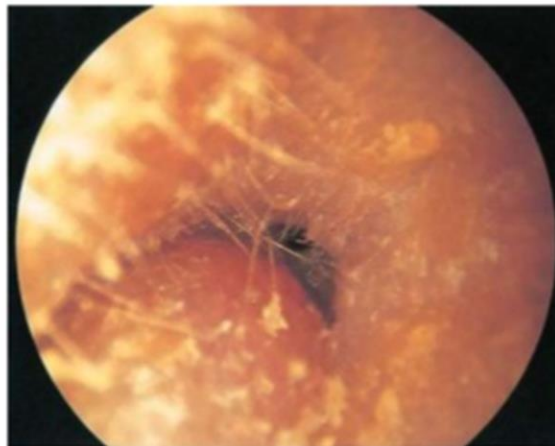
- Infected hear follicle.

- **Red, painful, tender, hard nodule** on the skin of the ear canal.
- The commonest causing organism → **Staph Aureus**.
- RFs → **DM, Immunocompromised** patients.
- Rx →
  - ✓ Mostly resolves **spontaneously**.
  - ✓ Some may need **Flucloxacillin**.
  - ✓ A very few cases grow larger and thus require **incision** and **drainage**.

## Furunculosis

**A boil (furuncle)** is an infection of a hair follicle]

**A carbuncle** occurs when a group of hair follicles next to each other become infected





**Key  
33**

AC > BC bilaterally (Normal)  
Weber's test lateralizes to the **left**  
⇒ **Right** Sensorineural Hearing Loss.

**Key  
34**

The answer would always be → **Arrange or refer for hearing assessment** in any of the following conditions:

- Any parental concern about hearing loss at any time (*Despite previously normal hearing tests*). **imp v/v**
- Professional (Doctor's) Concern.
- Temporal bone fracture.

	<ul style="list-style-type: none"> <li>• <b>Bacterial Meningitis.</b></li> <li>• <b>Sever Unconjugated “indirect” Hyperbilirubinemia.</b></li> <li>• <b>Delayed speech and language milestones.</b></li> </ul>
<b>Key 35</b>	<p><b>Itching in the ear, pain in the ear and serous discharge in the auditory canal, Tender tragus esp. with movement (difficult to examine the ear)</b></p> <p>→ <b>Otitis Externa.</b></p> <p>- <b>Additional supportive clinchers:</b></p> <ul style="list-style-type: none"> <li>• The severe <b>tenderness</b> makes it difficult to examine the ear (<i>tenderness when moving or touching the tragus</i>).</li> <li>• Hx of <b>Swimming, Traveling</b> or High <b>Humidity</b>.</li> </ul> <p>- <b>How to treat?</b></p> <p>A combination of topical: <b>Acetic acid + Gentamicin + Corticosteroids.</b></p>
<b>Key 36</b>	<p><b>Super Glue is stuck into a child’s ear and it is in contact with the ear drum (tympanic membrane)</b></p> <p>→ <b>Refer to ENT specialist.</b></p> <p>- Super glue may be removed manually within 1-2 days once desquamation</p>

has occurred.

- Referral to ENT is required if the adhesive is in contact with the tympanic membrane.

**Key  
37**

A **seed** has been stuck into a child's ear → **Suction with a small catheter.**

Never irrigate seeds, soft objects or organic matters.

If the child is uncooperative, mentally retarded or autistic → refer to ENT to remove the FB under GA.

If suction with a catheter/ remove by a hook are not in the options, pick

→ **Rapid access ENT clinic referral to be seen in a few days.**

"rapid access = semi-urgent" but not urgent.

This is done in the UK for seed (e.g. beans/ pea).

Remember, the urgent removal needed in cases of batteries, insects.

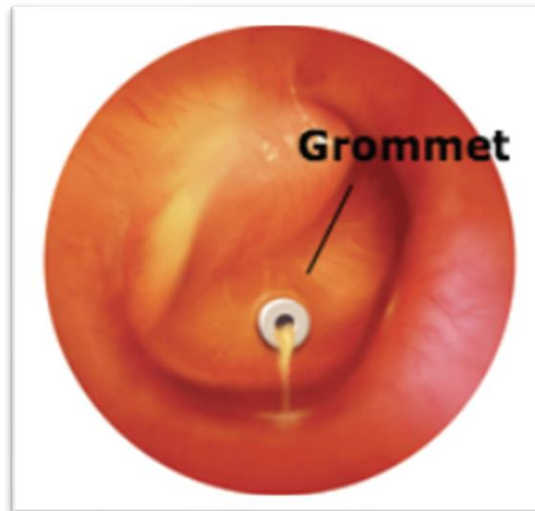
**Key  
38**

Attacks of **Vertigo, Dizziness** that occurs when moving the head specially while in **bed**, and last for a **few seconds** or minutes ± a feeling that the **room is spinning**

→ **Benign Paroxysmal Positional Vertigo**



	<p>Diagnosis? → <b>Dix-Hallpike's manoeuvre</b>. (it provokes <i>Nystagmus</i>).</p> <p>Treatment? → Apply <b>Epley's manoeuvre</b> for treatment.</p>
<b>Key 39</b>	<p>A child fell on his nose and presented later on with nasal <b>pain</b> and <b>tenderness</b>, general <b>malaise</b> and <b>fever</b></p> <p>Think → <b>Nasal Septal Abscess</b></p> <p>(due to <b>nasal hematoma that has been infected</b>)</p> <p>This is why nasal septal hematoma needs to be <u>incised and drained</u> in order to prevent bacterial infection and abscess formation on top of this hematoma.</p> <p>So, the answer is NOT HEMATOMA as hematoma does not cause general malaise and fever!</p>
<b>Key 40</b>	<p>A child who is <b>inattentive at school</b> and <b>sits close to the TV</b> and with bilateral <b>conductive progressive hearing loss</b> over a 12-month period presented to his GP and <u>after 3 months he did not show improvement</u>.</p> <p><b>Q) What is next?</b></p> <p>→ <b>Grommet insertion</b></p> <p>(Otitis Media with effusion = Glue ear)</p> <p>If this was his first visit and the symptoms are new</p> <p>→ Reassure and review in 3 months.</p>



**Key 41** Headache that worsens on **bending the head forwards** and in **the early morning** WITHOUT Nausea or vomiting

→ **Sinus headache** (due to **chronic sinusitis**).

N.B. Both **Sinus headache** and **Migraine** worsen when bending the head forward; however, migraine is more intense and tends to be associated with other symptoms such as Nausea, Vomiting and Photosensitivity.

**Key 42** **Weak** and altered voice in some occupations where there is **voice overuse** (e.g. teachers, actors, singers, commentators ...etc)

→ Think of **Functional Dysphonia**.

- **Functional Dysphonia**: Voice disturbance in the absence of any structural abnormality of the larynx and the cords.

- Do not be tricked by a Hx of a previous respiratory infection.
- If this weakness of voice occurs DURING the respiratory infection, the cause might be **Laryngitis**.

**Key  
43**

## **Presbycusis**

- Inability to hear **HIGH**-frequency sounds. (Raising the voice would not improve hearing). (**Inability to hear sound in noisy environment**).
- Affects the **elderly** patients.
- **Bilateral SNHL (bilateral sensorineural hearing loss)**
- It is difficult to understand the speech and follow conversations.
- The patients usually do not recognize they have hearing loss “**Don’t shout I am not Deaf!**”, thus, usually presented to a clinic by their family.
- **Poor hearing** especially in **noisy environment**.
- Rx → bilateral digital hearing aids that increase the high-frequency sounds.

### **Remember:**

In **Otosclerosis**:

- **Conductive** hearing loss.
- (Inability to hear **Low frequency** sounds). Therefore, raising the speaker’s voice would allow the patient to hear better.
- Also, it affects people at a **younger age** (15-45).

- Another important point is that patients with otosclerosis usually **hear better** while in a **noisy environment**.

**Key  
44**

## **Epistaxis (Bleeding per nose)**

### ■ First aid measures “initial”:

- Lean forward, open mouth.
- Pinch the **cartilaginous** (**soft**) part of the nose firmly and hold for 10-15 minutes while the patient is breathing per mouth.

If the patient is haemodynamically compromised (Unstable) → **Send to A&E.**

- **Recurrent** episodes of Epistaxis +
- Visible blood vessels are seen on the anteroinferior part of the nasal septum bilaterally +
- **No active bleeding** at the time of presentation to a GP surgery.

Rx → **Nasal Cautery at one side of the septum initially.**

Note, another valid answer if no active bleeding is

→ **Topical treatment with Naseptin “Chlorhexidine and Neomycin cream”.**

**As the bleeding is bilateral, both sides will eventually need cautery. However,**

we cannot do cautery of both sides at the same time for risk of **septal perforation**.

Cautery (with silver nitrate) should be avoided if there is active bleeding (as the silver nitrate would be washed out if there is active bleeding).

- **Recurrent** episodes of Epistaxis +
- Visible blood vessels are seen on the anteroinferior part of the nasal septum bilaterally +
- **There is still active bleeding** at the time of presentation to a GP surgery.

→ **Anterior Nasal Packing Bilaterally**.

Cautery (with silver nitrate) should be avoided if there is active bleeding (as the silver nitrate would be washed out if there is active bleeding).

The packing is done bilaterally as the bleeding is bilateral, and the patient is encouraged to breath per **mouth**. "typically left in for 24-48 hours"

**Key  
45**

### **Acute Tonsillitis**

- Painful sore throat for more than 2 days.
- Earache (as the pain may refer to the ears).
- Tonsils are reddened, swollen, congested and ± pus or exudates.

- **Mostly viral** but can be bacterial.

### **Centor criteria**

They are used to help differentiate either it is a **viral** or **bacterial** tonsillitis.

The presence of **3 out of the following 4** Centor criteria raise the suspicion of **Bacterial – Streptococcal tonsillitis**:

- 1) Fever  $> 38$ .
- 2) Tender and Enlarged Anterior cervical LNs.
- 3) Tonsillar exudates/pus.
- 4) No associated cough. (Associated cough is more towards viral).

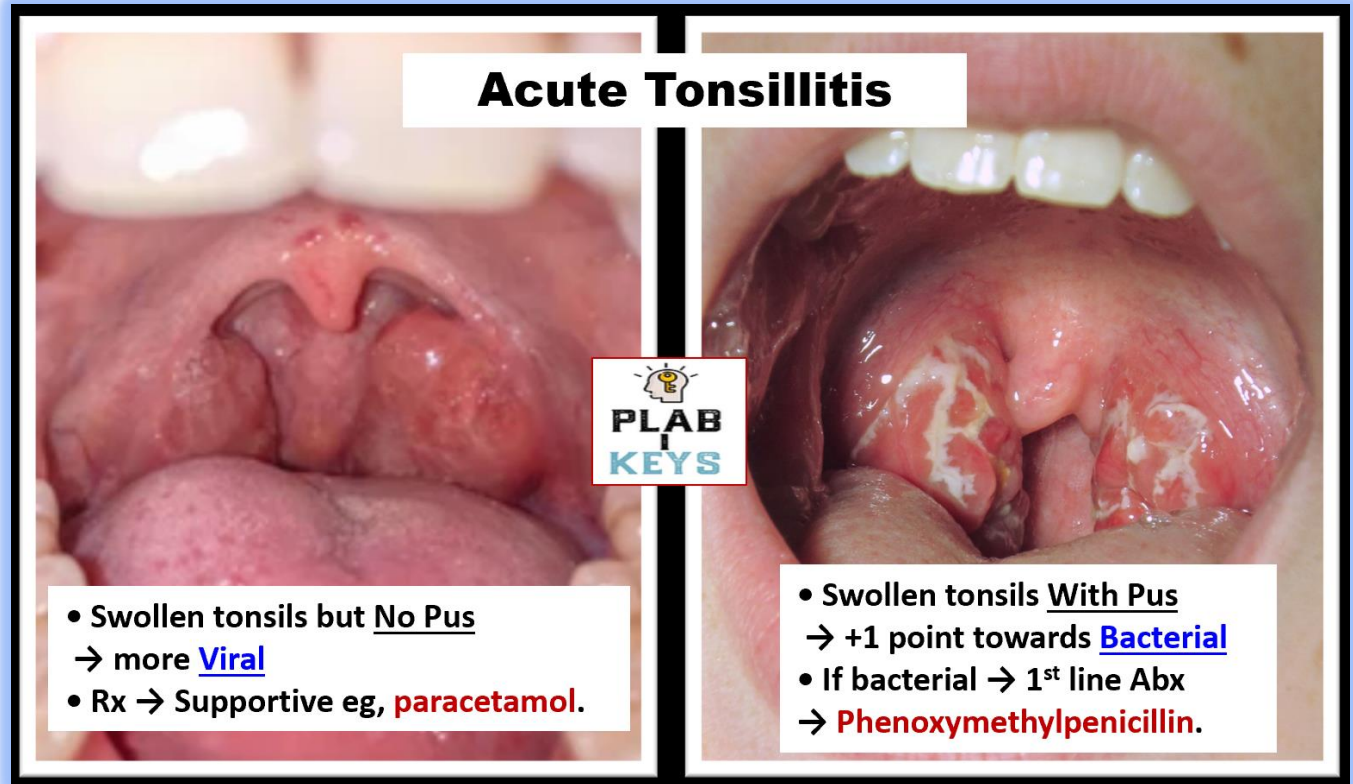
- If  $< 3 \rightarrow$  **Viral** (most cases)  $\rightarrow$  Supportive management (eg, **paracetamol**).
- if  $\geq 3 \rightarrow$  **Bacterial** we give Antibiotics (**Phenoxymethylpenicillin** = Penicillin V).

### ☐ **Management of acute tonsillitis:**

If **Viral** (most cases)  $\rightarrow$  Supportive (eg, **paracetamol** for fever and sore throat).

If **bacterial**  $\rightarrow$  First line  $\rightarrow$  **Phenoxymethylpenicillin**.

*Take care of the question!*



### Collection:

1<sup>st</sup> line in bacterial Otitis Media → **Amoxicillin**.

1<sup>st</sup> line in bacterial tonsillitis → **Phenoxymethylpenicillin “penicillin V”**.

1<sup>st</sup> line in bacterial sinusitis → **Phenoxymethylpenicillin “penicillin V”**.

**Key  
46**

- Oral **steroids** can weaken the immunity and cause candidiasis (fungal infection).
- One of the possible candidiasis sites is → **Laryngeal Candidiasis** where the patient presents with Hoarseness of Voice.

- A Scenario of an Asthmatic patient on **long term oral steroid** therapy for his asthma presents with **hoarseness of voice**

→ Think of **Laryngeal candidiasis** 2ry to prolonged steroid intake.

**Key  
47**

## **Benign Parotid tumour**

- The most common type is → **Benign Pleomorphic Adenoma**  
(or = **Benign Mixed Tumour**).
- **Asymptomatic**,
- **Solitary**,
- **Painless**,
- **Firm**,
- **MOBILE** mass/swelling at the angle of the mandible that
- **Grows slowly**. ✓
- Rx → **Superficial Parotidectomy or Enucleation**.
- There is a 2-10% risk of malignant transformation.





**Important DDx of Parotid Enlargement**

## Sjogren's syndrome

- Autoimmune disorder characterised by **parotid enlargement**, **xerostomia** (dry mouth) and **keratoconjunctivitis sicca**.
- 90% of cases occur in females.
- Second most common connective tissue disorder.
- Bilateral, non-tender enlargement of the gland is usual.
- Treatment is supportive.
- There is an increased risk of subsequent lymphoma.

## Mumps

- Mumps is an acute, contagious, self-limited, systemic viral illness characterized by the swelling of one or more of the salivary glands, typically the parotid glands.
- Mumps is caused by RNA paramyxovirus and tends to occur in winter and spring.

- **Spread:**

✓ by droplets

✓ respiratory tract epithelial cells → parotid glands → other tissues

✓ infective 7 days before and 9 days after parotid swelling starts

✓ incubation period = 14-21 days

- **Clinical features of mumps:**

- ✓ fever

- ✓ malaise

- ✓ muscular pain

- ✓ parotitis ('earache', 'pain on eating'): unilateral initially then becomes bilateral in 70%

- **Prevention:**

MMR vaccine: the efficacy is around 80%

- **Management of mumps:**

- ✓ rest

- ✓ paracetamol for high fever/discomfort

- ✓ notifiable disease

- **Complications**

- ✓ **Orchitis** – (testicular inflammation) uncommon in pre-pubertal males but occurs in around 25-35% of post-pubertal males. Typically occurs four or five days after the start of parotitis

- ✓ hearing loss – usually unilateral and transient

- ✓ meningoencephalitis

- ✓ pancreatitis

	<p><b>Other Differential Diagnoses:</b></p> <ul style="list-style-type: none"> <li>- <b>Parotitis</b> → Painful, Tender.</li> <li>- <b>Mandible or Tonsillar cancer</b> → NOT Mobile.</li> <li>- <b>Sjogren's Syndrome</b> → There should be associated dry eyes and/or mouth.</li> </ul>
<b>Key 48</b>	<ul style="list-style-type: none"> <li>• Bone Conduction is better than Air Conduction in the <b>Left</b> ear, Weber's test lateralises to the <b>Left</b> ear → <b>Left Conductive Deafness.</b></li> </ul>
<b>Key 49</b>	<p>The <u>initial</u> step for Epistaxis in a <b>haemodynamically stable</b> patient → <b>Lean forward, Open mouth, Pinch the soft (Cartilaginous) part of the nose firmly for 10-15 minutes.</b></p> <p>If <b>haemodynamically unstable</b> → Send to A&amp;E.</p>
<b>Key 50</b>	<ul style="list-style-type: none"> <li>• Dizziness/Vertigo on Moving head lasts for seconds to minutes → <b>BPPV.</b></li> <li>• If + Hx of Viral URTI → <b>Vestibular Neuritis.</b></li> <li>• If + Hx of Viral URTI + Hearing loss/Tinnitus → <b>Labyrinthitis.</b></li> </ul> <p><b>Another Summary:</b></p>

	<ul style="list-style-type: none"> <li>• Vertigo + Hx of Common cold → <b>Vestibular neuritis</b>.</li> <li>• Vertigo + Hx of Common cold + Hearing loss/Tinnitus → <b>Labyrinthitis</b>.</li> <li>• Vertigo on moving head that lasts for seconds WITHOUT Hx of Common cold → <b>Benign Paroxysmal Positional Vertigo</b>.</li> <li>• DVT + Fullness (<b>D</b>eafness, <b>V</b>ertigo, <b>T</b>innitus) + Pressure or Fullness in one ear → <b>Meniere's disease</b> (MRI is normal).</li> <li>• DVT + Cranial Nerve Palsy (e.g. Facial palsy, Loss of Corneal reflex, Loss of facial sensation) → <b>Acoustic Neuroma</b> (Do <b>MRI of the cerebellopontine angle</b>).</li> </ul>
<b>Key 51</b>	<p><b>Insect in the ear</b> →</p> <ul style="list-style-type: none"> <li>• Initially: <b>Kill it by 2% Lidocaine</b>.</li> <li>• Then: Remove it by <b>pouring olive oil into the ear or water irrigation</b>.</li> </ul>
<b>Key 52</b>	<p>Unilateral SNHL + Facial Drooping + Dizziness and Headache → Think of <b>Acoustic Neuroma</b> and request <b>MRI of the Cerebellopontine angle</b>.</p> <p>Remember: <b>Acoustic Neuroma</b> (Or: Vestibular Schwannoma) →</p> <ul style="list-style-type: none"> <li>- DVT (Deafness, Vertigo, Tinnitus) +</li> <li>- Cranial Nerve Palsy (e.g. Facial Drooping) +</li> <li>- Intracranial Pressure manifestations (e.g. Headache). It is a space-occupying lesion.</li> </ul>

<b>Key 53</b>	<p>Pain in an ear, cheek, mandible that increases on chewing + Bruxism (grinding of the teeth)</p> <p>⇒ Think of: <b>Temporomandibular joint disorder</b>.</p>
<b>Key 54</b>	<p>Q) <u>How to Deal with Earwax Build-up?</u></p> <ul style="list-style-type: none"> <li>- <b>Firstly</b> → Earwax softening <b>ear drops</b> (e.g. <i>Olive oil, Almond oil, Normal Saline, Sodium Bicarb...etc.</i>) for 3-5 days to soften wax and ease its removal.</li> <li>- <b>If persists</b> → <b>Ear Irrigation</b>.</li> </ul> <p>If these two lines have been tried but the symptoms (e.g., ↓ hearing) persist, what should be done?</p> <p>→ In this case, one of the following 3 options is attempted:</p> <ul style="list-style-type: none"> <li>✓ Another course of 3-5 days ear drops (e.g. olive oil, normal saline).</li> <li>✓ Instil water into the ear and irrigate after 15 minutes.</li> <li>✓ Refer to an ENT specialist.</li> </ul>
<b>Key 55</b>	<p style="text-align: center;"><b>Noise-induced hearing loss</b></p> <ul style="list-style-type: none"> <li>• It is the second most common form of <b>sensorineural hearing deficit</b>, after</li> </ul>

presbycusis (which is age-related hearing loss).

- It occurs due to exposure to a loud sound.
- It can occur due to occupational noise (e.g. working in a shipyard, army, factories...etc.) → **Occupational hearing loss**.
- The form of this type is → **Bilateral Sensorineural Hearing Loss** (Bilat. SNHL).
- *The patient cannot hear well in a large room when a number of people are taking simultaneously. He also cannot understand the speech well while on the phone. He feels that the sound is muffled.*
- **Mixed hearing loss** can be seen in **Paget's disease** and **Osteogenesis imperfecta**.

**Key 56** **An insect (e.g. a fly) is stuck inside an ear.**

- **Initial step?** → Kill it with **2% lidocaine** OR alcohol.
- **Then?** → instil oil (**olive oil/Mineral oil**) to make the insect float and thus facilitate its removal.

**Pay attention to the question:**

- If it asks about (the **initial step**),  
the answer would be → (**Lidocaine / alcohol**).
- If it asks about **the method to get the insect removed**,  
the answer would be → instilling **mineral or olive oil** into the ear.

**Key 57** **Red and inflamed bulge** (or) swelling **beside the tonsil** (above and lateral to a tonsil) + Hx of **Dysphagia** and **Sore throat** +/- hot potato voice.

- Think of **Peritonsillar Abscess** (= **Quinsy**).
- **Amit for IV antibiotics, incision and drainage.**

Another answer → **Urgent admission to the hospital.**

- The antibiotic is → IV Benzylpenicillin.
- It is a complication of acute tonsillitis.
- Other features → Trismus, Drooling of Saliva, Fever, deviation of the uvula, Hot potato voice (due to pharyngeal oedema).

**Key 58** **Elderly + Smoker + Dysphagia** + unilateral **ear pain** + unilateral red lesion with **central ulcer** that **bleeds on touch**

- **Tonsillar Cancer.**



	<ul style="list-style-type: none"> <li>Oropharyngeal cancer includes: the base of the tongue, the tonsils, the soft palate, the walls of the pharynx.</li> </ul>
<b>Key 59</b>	<p>A child, <b>raises the TV volume to a high level</b>, does not hear her parents well, bilaterally reduced air conduction →</p> <p><b>OME (Otitis Media with Effusion) = Glue Ear.</b></p> <p>N.B. <b><i>Bilaterally BA&gt;AC → Bilateral Conductive hearing loss (that is seen in OME).</i></b></p>
<b>Key 60</b>	<p><b><u>In a case of Tonsillitis:</u></b></p> <p>Q1) When to Give Antibiotics?</p> <p>Q2) When is the Tonsillectomy indicated?</p> <p>Q3) If neither Antibiotics nor Tonsillectomy is indicated, how to manage?</p> <p><b>A1)</b> According to <b>Centor criteria</b> (3 of the following 4 raise the suspicion of <b>Bacterial – Streptococcal tonsillitis</b> → we give Antibiotics (<b>Phenoxymethylpenicillin</b> = Penicillin V))</p> <ul style="list-style-type: none"> <li>Fever &gt; 38</li> <li>Tender Anterior cervical Lymphadenopathy</li> </ul>

- Tonsillar exudates/pus
- **No** associated cough

***If 3 out of 4 are present, we give Antibiotics.***

**A2)** Tonsillectomy is indicated in any of the following:

- > **7** episodes of tonsillitis per year for **1** year.
- > **5** episodes per year for **2** years.
- > **3** episodes per year for **3** years.

• An additional important indication for tonsillectomy is

→ **Sleep Apnea**

*(If the enlarged tonsils affect sleeping. Eg, are making the child struggle with breathing while sleeping).*

**A3)** If not bacterial tonsillitis, and tonsillectomy is not indicated, we manage using antipyretic analgesic such as **Paracetamol** or **Ibuprofen** “Supportive”.

**Example:** a child with fever, sore throat, cough, no cervical LNs, tonsils are red but without exudates or pus → **Paracetamol**. (**Reassure**).

**Key 61** ■ The appropriate test for deafness in neonates:

→ **ABR (auditory brainstem response)**.

Or → Otoacoustic emissions.

## Hearing Tests in Children

- **Below 6 Months:** - **Otoacoustic Emissions** (OAE), or:  
- **Audiological Brainstem Responses** (ABR)
- **6 Months – 18 Months** → **Distraction Testing**
- **2-4 Years:** - **Speech Discrimination**, or:  
- **Conditioned Response Audiometry** (CRA)
- **5 years** → **Pure Tone Audiogram** (PTA)

Key  
62

## BPPV (Benign Paroxysmal Positional Vertigo)

- Attacks of Dizziness, Vomiting, Anxiety that last for **a few seconds to minutes**.
- “The **room is Spinning**”
- They occur when **changing posture** (Head movement).
- No Hx of viral URTI.

Benign paroxysmal positioning vertigo (BPPV) is a peripheral vestibular disorder involving the semicircular canal usually but not exclusively the posterior semi-circular canal (PSCC). **Imp vv**

Key  
63

A Red, Bulging Tympanic membrane + Otalgia → **Acute OM**.

	<p>N.B. <u>The absence of light reflex on the TM</u></p> <p>→ means that the <u>TM is Bulging</u> (Any distortion of the TM would prevent light reflex).</p>
Key 64	<ul style="list-style-type: none"> <li>- DVT (Deafness, Vertigo, Tinnitus) + Fullness/Pressure in one ear + No cranial nerve involvement.</li> <li>→ <b>Meniere's disease</b></li> <li>- If the above are present + <b>Cranial Nerve Problem ± Headache</b></li> <li>→ <b>Acoustic Neuroma.</b></li> <li>- <u>Examples of CN palsies that can occur with Acoustic Neuroma:</u> <ul style="list-style-type: none"> <li>• Facial nerve CN VII → Facial Palsy/ Facial drooping.</li> <li>• Abducens nerve CN VI → Diplopia to the same side.</li> <li>• Trigeminal nerve CN V → Loss of corneal reflex and facial sensation.</li> </ul> </li> </ul>
Key 65	<p><b>Important Scenarios on Hearing Loss Causes:</b></p> <ul style="list-style-type: none"> <li>• <b>Presbycusis</b>: elderly, Sensorineural, difficulty hearing in a <u>noisy</u> environment. (High frequency hearing loss).</li> <li>• <b>Otosclerosis</b>: Young Adult, Conductive, Difficulty hearing in a <u>quiet</u> environment (e.g., on the phone) (Low frequency hearing loss), i.e., the patient hears better in a noisy environment. ± <b>Family Hx.</b></li> </ul>

Key 66	<p>Always suspect <b>Laryngeal cancer</b> in a patient with Hx of <b>smoking</b> and presents <b>Hoarseness of voice</b>.</p> <p>- <b>Risk factors of Laryngeal cancer:</b></p> <ul style="list-style-type: none"> <li>• <b>Smoking</b> (The <u>main avoidable</u> RF and the number one cause of laryngeal cancer in the UK).</li> <li>• Asbestos, formaldehyde.</li> <li>• Poor fruit and vegetable diet.</li> <li>• Human Papilloma Virus (<b>HPV 16</b>) → Oral, Pharyngeal, Laryngeal cancer.</li> </ul>
Key 67	<p><b>Meniere's disease</b> could present without the feeling of fullness or pressure on the affected ear. It can simply present with <u>several yearly attacks of vertigo that last from minutes to hours</u>.</p> <p>Pick Meniere's as long as there is no cranial nerve involvement (e.g. facial drooping, diplopia, loss of corneal reflex etc.) and there is no Hx of viral URTI.</p> <ul style="list-style-type: none"> <li>- If <b>CN involvement</b> → <b>Acoustic neuroma</b>.</li> <li>- If <b>Hx of Common cold (URTI)</b> → <b>Vestibular neuritis</b></li> <li>- If <b>Hx of Common cold (URTI) + Hearing loss or Tinnitus</b> → <b>Labyrinthitis</b>.</li> <li>• The treatment of Meniere's disease is some drugs to <u>alleviate vertigo and nausea</u> such as buccal or IM <b>Prochlorperazine</b>, <b>Cyclizine</b> (<u><i>Zine family</i></u>).</li> <li>• The <b>MRI</b> in Meniere's disease is <b>NORMAL</b>.</li> </ul>

Key 68	<p><b>Acute Otitis Media</b></p> <ul style="list-style-type: none"> <li>• Earache (otalgia).</li> <li>• Usually follows viral URTI (e.g. tonsillitis).</li> <li>• Fever, Vomiting, Irritability.</li> <li>• Tympanic membrane: might be Red, Yellow or Cloudy. It might also be bulging, or perforated with or without purulent discharge.</li> <li>• Ruptured tympanic membrane alleviates the pain.</li> <li>• Usually viral (requires analgesics and supportive treatment only).</li> <li>• If signs of bacterial (e.g. High fever, cervical lymphadenopathy) → Oral Amoxicillin.</li> </ul>
Key 69	<p>Again, a child who <b>raises the TV volume to a high level</b> → Think of <b>Otitis media with effusion</b>.</p> <p>The TM might be either retracted or Bulging.</p> <p>Rx: <b>Review in 3 months</b> → not resolved? → <b>Insert Grommets</b>.</p>
Key 70	<p>Hx of URTI (Common cold) + unilateral pain at the upper jaw, cheek and infraorbital region ± fever.</p> <p>⇒ <b>Maxillary sinusitis</b>. (Acute sinusitis).</p> <p>⇒ <b>Nasal decongestant</b> “contain ephedrine”.</p>

- **Viral URTI is an important precipitating factor of sinusitis.**

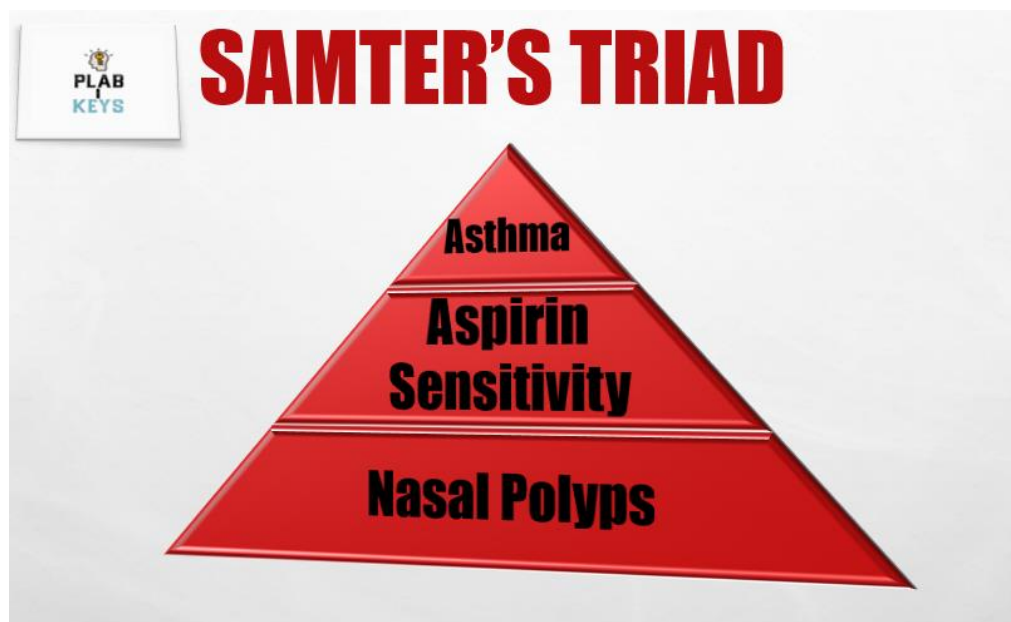
Key  
71

***Asthma + Nasal Obstruction + Rhinorrhoea + Anosmia (inability to smell)***

Think → **Nasal Polyps.**

First-line treatment → **Intranasal corticosteroids.** Then: Oral corticosteroids.

**Samter's Triad:** Asthma, Aspirin Sensitivity, Nasal Polyps



**Remember the association of nasal polyps with Asthma!**

Key  
72

**Paranasal sinus tumour**

- Pressure / pain / Tenderness / Swelling in the cheek, upper teeth.

- Blood seen in the nasal discharge.
- Nasal Obstruction.
- Hx of chronic sinusitis.
- If the orbit is involved → Epiphora (excessive watering of the eye), Diplopia.

Key  
73

## Obstructive Sleep Apnea Syndrome OSA

### Features of OSA

- ✓ Snoring loudly while sleeping and having headaches in the morning.
- ✓ Occasional apnea episodes while sleeping.
- ✓ Somnolence (dozing off), sleepiness, fatigue and tiredness during daytime.
- ✓ Associated with: Obesity, Hypertension, DM, Alcoholism.

### Diagnosis

- Initial → Pulse oximetry, overnight study of breathing pattern.
- Gold standard (Diagnostic) → Polysomnography (sleep study).

Polysomnography is also called a sleep study, is a comprehensive test used to diagnose sleep disorders.



Polysomnography records brain waves, oxygen level in blood, heart rate and breathing, as well as eye and leg movements during the study.

## Treatment

- **Conservative:** e.g. weight reduction, reduce alcohol intake.
- **CPAP** “Continuous Positive Airway Pressure” → first line for moderate or severe OSA.
- Rarely Surgery (e.g. Tonsillectomy, Adenoidectomy) to alleviate pharyngeal obstruction.

## Driving Advice for Obstructive Sleep Apnea (OSA) Patients Especially Those with Excessive Daytime Sleepiness:

- If the diagnosis is suspected but has not yet been confirmed  
→ Advise the patient to stop driving (until the diagnosis is confirmed).  
(No need to inform DVLA yet neither by the patient nor by the doctor).
- After the diagnosis of OSA has been confirmed (by polysomnography):  
→ Advise the patient to inform DVLA themselves.
- If they refused to inform DVLA  
→ Inform DVLA on their behalf.

Key

**Tonsillectomy Complications**

- 74
- **1ry Bleeding** (within the first 24 hours) → **Return to the theatre** may be required. Usually due to inadequate haemostasis, displacement of a tie, loss of eschar.
  - **2ry or Reactive Bleeding** (occurs more than 24 hours post-op = 1-10 days post op, and usually after discharge)
- Usually due to wound **infection** that leads to vessel erosion; thus,
- **Admit the patient and give IV Antibiotics**. ✓ **imp.**
- (Antibiotics and Antiseptic mouthwashes are also indicated)

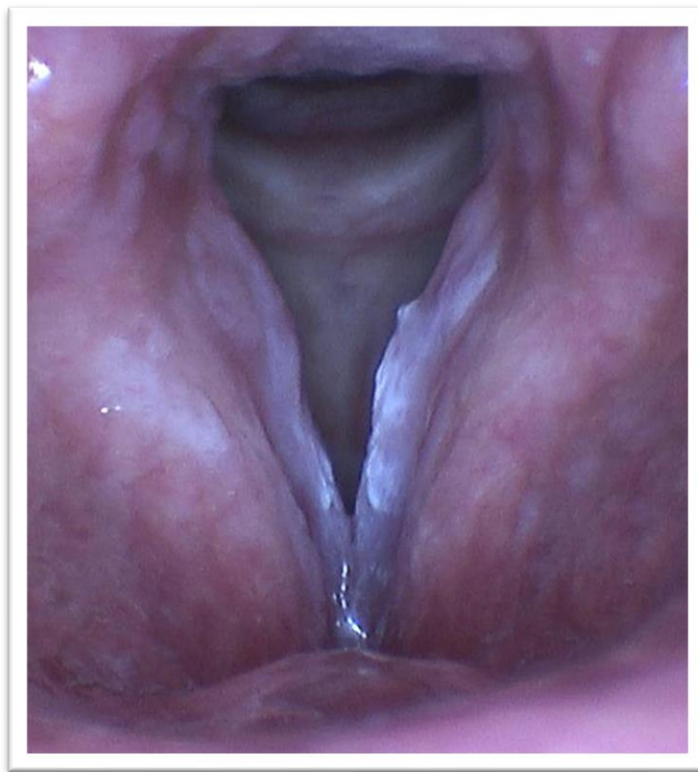
### In short:

- **Primary (first 24 hrs)** → Call ENT surgeon “may require to return to the theatre”.
- **Secondary “or reactive”** (> 24 hrs after discharge) → Admit and give IV antibiotics.

Key 75 If a patient bleeds (hematemesis) within **the first 24 hours** post-tonsillectomy → **Call the ENT Surgeon** as the patient may require a return to theatre.

Key 76 **Mild Squamous Dysplasia of the larynx**

- **Hoarseness**, **White patch “Leukoplakia”** over the Vocal cords.
- **What to do Next?**
- Advise the patient to **STOP SMOKING**
- + Observe and F/U (Risk of Malignancy).



**Mild squamous dysplasia of the larynx**

Hoarseness + white patches on the vocal cord

→ advise patient to **stop smoking** and follow up.

**Key** ■ In otitis media with effusion (Glue ear). Sometimes, the answer would be

77 → **Advice parents to quit smoking.**

*Parental smoking is a risk factor for OME. So, encourage them to stop smoking and review the child in 3 months*

## Key 78 **Tonsillar Carcinoma**

- **Persistent sore throat** (over weeks).
- Progressive **Hoarseness** of voice.
- Dysphagia and **painful swallowing**.
- Feeling of a **persistent lump** in the **throat**.
- **Palpable lump on the anterolateral portion of the neck.**

- The most common type → Squamous Cell Carcinoma.
- Lateral Direct Local Spread → involves **Mandible** and Pharyngeal space.

Spread to **Mandible**

→ **Pain** in the **throat** + **Trismus** (spasm of the jaw muscles, causing the mouth to remain tightly closed)

Key 79 **One important complication of tonsillitis is**

→ **Peritonsillar abscess (Quinsy).**

In peritonsillar abscess, there is usually **high temperature**, **swelling** on the soft palate or beside tonsils often **with exudates**. The pain is usually worse on **one side** of the throat.

- Others: *Sore throat, Dysphagia, uvular deviation, Drooling*, altered voice "*Hot Potato Voice*".
- **There is usually a Hx of sore throat for several days.**

Rx → **Amit for IV antibiotics, incision and drainage.**

Another answer → **Urgent admission to the hospital**

This is to be given (**IV Benzylpenicillin**) + **Aspiration** or **Incision and Drainage**.

So, **ADMISSION** is a must.

√ **Remember**, first line antibiotic for bacterial tonsillitis

→ **Penicillin-V (Phenoxymethylpenicillin)**

Key  
80

▣ **Large hematoma of the pinna (of the ear)**

**Management? →**

**Incision and drainage +**

### Prophylactic Oral Antibiotics (Co-amoxicillin) for 1 week



Large pinna hematoma “needs incision and drainage + Abx”

Note that if left untreated (not drained early), necrosis may develop and affect the auricular cartilage leading to a persistent deformity “**Cauliflower ear**”.

☐ Injury to ear pinna with **INTACT** tympanic membrane with no large hematoma

→ **No further investigations** (self-limiting).

	<ul style="list-style-type: none"> <li>• If Painful → <b>give analgesics.</b></li> </ul>
Key 81	<p>Hx of <b>smoking, Hoarseness</b>, Dysphagia, Hemoptysis</p> <p>→ think of <b>Laryngeal Cancer.</b></p>
Key 82	<p><b>A boy who had tonsillectomy returned after 8 hours as he vomited blood. His temperature is 36.7. What to do?</b></p> <p>→ <b>inform the ENT surgeon immediately.</b></p> <hr/> <p><b>Tonsillectomy Complications</b></p> <ul style="list-style-type: none"> <li>• <b>1ry Bleeding</b> (within the first 24 hours) → <b>Return to the theatre</b> may be required. Usually due to inadequate haemostasis, displacement of a tie, loss of eschar.</li> <li>• <b>2ry or Reactive Bleeding</b> (occurs more than 24 hours post-op = 1-10 days post op, and usually after discharge). Usually due to wound <b>infection</b> that leads to vessel erosion; thus, <ul style="list-style-type: none"> <li>→ <b>Admit the patient and give IV Antibiotics.</b></li> </ul> </li> </ul> <p>(Antibiotics and Antiseptic mouthwashes are also indicated).</p>

<p>Key 83</p>	<p><b>A Smoker presents with white patch on vocal folds with mild dysplasia.</b></p> <p>→ <b>Stop smoking</b></p>
	<p><b>Mild Squamous Dysplasia of the larynx</b></p> <ul style="list-style-type: none"> <li>• <i>Hoarseness, White patch</i> over the Vocal cord.</li> <li>- <b>What to do Next?</b></li> <li>- Advice the patient to <b>STOP SMOKING</b></li> <li>+ Observe and F/U (Risk of Malignancy).</li> </ul> <div data-bbox="662 913 1101 1396" data-label="Image"> </div>
<p>Key 84</p>	<p><b>Buccal Ulcer with palpable cervical nodes</b></p> <p>Think → <b>Squamous Cell Carcinoma.</b></p>
<p>Key 85</p>	<p>A 22 YO male was hit on his right ear while playing rugby. He complains of intense ear pain. The right pinna is red and tender but without swelling. His tympanic membrane is intact. What is the management?</p>



As there is no swelling → discharge on **oral analgesics** (to relieve the pain).

### **What if the pinna shows swelling (hematoma)?**

→ **refer to otolaryngologist for incision and drainage.**

Key  
86

- **Recurrent** episodes of Epistaxis +
- Visible blood vessels are seen on the anteroinferior part of the nasal septum bilaterally +
- **No active bleeding** at the time of presentation to a GP surgery.

→ **Nasal Cautey at one side of the septum initially.**

Note, another valid answer if no active bleeding is

→ **Topical treatment with Naseptin “Chlorhexidine and Neomycin cream”.**

As the bleeding is bilaterally, both sides will **eventually** need cautery. However, we cannot do cautery of both sides at the same time for risk of **septal perforation**.

Cautery (with silver nitrate) should be avoided if there is active bleeding (as the silver nitrate would be washed out if there is active bleeding).

- **Recurrent** episodes of Epistaxis +
- Visible blood vessels are seen on the anteroinferior part of the nasal septum bilaterally +
- **There is still active bleeding** at the time of presentation to a GP surgery.

→ **Anterior Nasal Packing Bilaterally.**

Cautery (with silver nitrate) should be avoided if there is active bleeding (as the silver nitrate would be washed out if there is active bleeding).

The packing is done bilaterally as the bleeding is bilaterally, and the patient is encouraged to breath per **mouth**. “typically left in for 24-48 hours”

**Key 87** A 60-year-old man presents to the Ear, nose and throat clinic with complaints of gradual hearing loss in the left ear. There is a history of occasional vertigo and tinnitus. The external auditory meatus and tympanic membrane appear normal. Audiology reveals left ear hearing loss. What is the most appropriate investigation to lead to a diagnosis?

- A. Brain stem evoked response
- B. **MRI of internal auditory meatus**
- C. Speech Audiogram
- D. Tinnitus matching
- E. Vestibular Tests

### **Acoustic Neuroma (Vestibular Schwannoma)**

Pressure effect on cranial nerves:

- Vestibular nerve CN VIII → DVT (Deafness, Vertigo, Tinnitus).
- Facial nerve CN VII → Facial Palsy/ Facial drooping.

- Abducens nerve CN VI → Diplopia to the same side.
- Trigeminal nerve CN V → Loss of corneal reflex and facial sensation.
- Dx → **MRI of the cerebellopontine angle** (or to **internal auditory meatus**) then MRI Brain.

N.B.

- DVT (Deafness, Vertigo, Tinnitus) + heaviness/pressure/fullness in ear  
(**without cranial nerve involvement**)

→ **Meniere's disease**.

- DVT (Deafness, Vertigo, Tinnitus) + **CN Palsy** ± pressure sensation in the affected ear

→ **Acoustic Neuroma**.

Remember that: MRI in Meniere's disease is NORMAL.

N.B. Bilateral Acoustic Neuromas are seen in Neurofibromatosis type 2

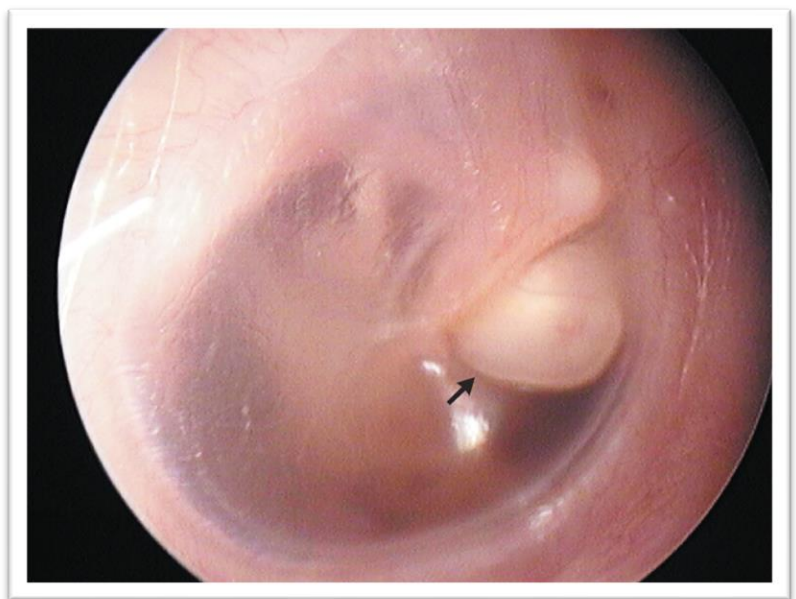
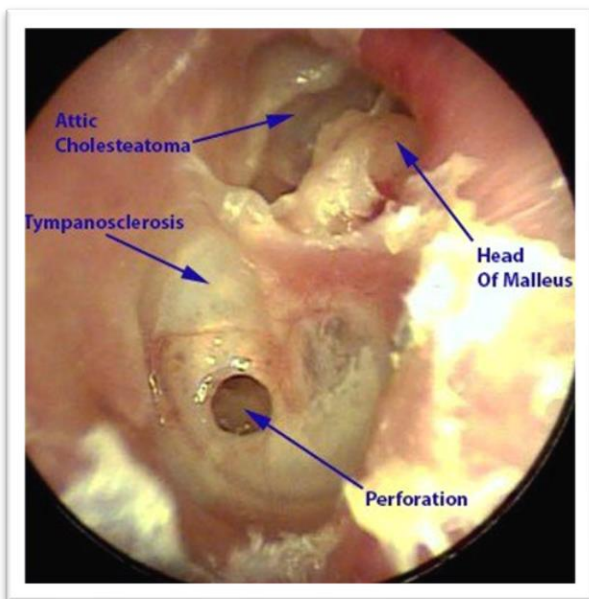
### **Important Summary:**

- Vertigo + Hx of Common cold → **Vestibular neuritis**.
- Vertigo + Hx of Common cold + Hearing loss/Tinnitus → **Labyrinthitis**.
- Vertigo on moving head that lasts for seconds WITHOUT Hx of Common cold → **Benign Paroxysmal Positional Vertigo**.
- DVT + Fullness (**D**eafness, **V**ertigo, **T**innitus) + Pressure or Fullness in one ear → **Meniere's disease** (MRI is normal).
- DVT + Cranial Nerve Palsy (e.g. Facial palsy, Loss of Corneal reflex, Loss of facial sensation) → **Acoustic Neuroma** (Do MRI of the cerebellopontine angle).

It is important to note that Vertigo in Meniere's disease can sometimes last for **several hours**, while in BPPV, it only lasts for a few seconds-minutes.

Key  
88

- **Pearly white mass BEHIND** the Tympanic membrane.
- **Chronic Foul-smelling purulent discharge** (otorrhea).
- Otoscopy may reveal canal filled with **pus/mucus/granulation** tissue.
- Hx of **recurrent Otitis Media**. (**poorly responsive to antibiotics**).
- It causes **Conductive** hearing loss



The likely Dx → **Cholesteatoma**.

Key  
89

**A patient came back after 7 days of adeno-tonsillectomy with the complaint of vomiting blood. Temp is 38.5. What is the most appropriate step?**

- A. **Admit for IV antibiotics**
- B. Admit for FFP and Vit k
- C. Discharge home with oral antibiotics
- D. urgent surgical exploration of wound site

### Tonsillectomy Complications

- **1ry Bleeding** (within the first 24 hours) → **Return to the theatre** may be required. Usually due to inadequate haemostasis, displacement of a tie, loss of eschar.
- **2ry or Reactive Bleeding** (occurs more than 24 hours post-op = 1-10 days post op, and usually after discharge)

Usually due to wound **infection** that leads to vessel erosion; thus, **Admit the patient and give IV Antibiotics**.

(Antibiotics and Antiseptic mouthwashes are also indicated).

Key 90 A 23 yr old with recurrent vertigo of 4 weeks lasting for a few seconds, What is the site of the anatomical defect?

- A. **Post semi-circular canal**
- B. Cochlea
- C. Spiral ganglion
- D. Temporal lobe of brain
- E. Vestibular nucleus

Benign paroxysmal positioning vertigo (BPPV) is a peripheral vestibular disorder involving the **semicircular canal** usually but not exclusively the

	posterior semi-circular canal (PSCC).
Key 91	<p>■ <b>CHL “Conductive hearing loss”:</b></p> <ul style="list-style-type: none"> <li>✓ Otosclerosis,</li> <li>✓ Tympanosclerosis,</li> <li>✓ OME “Glue ear”,</li> <li>✓ Malignant otitis externa,</li> <li>✓ Cholesteatoma</li> </ul> <p>■ <b>SNHL “Sensorineural hearing loss”:</b></p> <ul style="list-style-type: none"> <li>✓ Meniere’s disease,</li> <li>✓ Acoustic neuroma,</li> <li>✓ Presbycusis,</li> <li>✓ Noise-induced hearing loss</li> </ul>
Key 92	<p><b>Suspected laryngeal cancer [referral guidelines]</b></p> <p>A suspected cancer pathway referral (for an appointment within 2 weeks) to an ENT specialist should be considered for people aged 45 and over with:</p> <ul style="list-style-type: none"> <li>✓ Persistent unexplained hoarseness of voice (for &gt; 3 weeks) or:</li> <li>✓ An unexplained lump in the neck.</li> </ul> <p><b>Remember:</b></p>

- **Smoking** is the main avoidable risk factor for laryngeal cancer.
- **Chronic hoarseness** is the most common early symptom of laryngeal cancer.
- Other features may develop with time and include:  
Stridor ■ difficulty or painful swallowing ■ hemoptysis ■ neck lump ■ cough

Key  
93

**While having dinner, a 5-year-old child inserted a pea inside his ear and is brought to the paediatric emergency. Otoscopy reveals the stuck pea and wax. What should be done?**

- A) Reassure and review in 2 weeks.
- B) Antibiotics ear drops.
- C) Olive oil air drops.
- D) Urgent referral to ENT clinic to be seen immediately.
- E) **Rapid access ENT clinic referral to be seen in a few days.**

If suction with a catheter/ remove by a hook are not in the options, pick

→ **Rapid access ENT clinic referral to be seen in a few days.**

“rapid access = semi-urgent” but not urgent.

This is done in the UK for seed (e.g. beans/ pea) and usually the child is seen in 1-2 days.

Remember, the urgent removal needed in cases of batteries, insects.

Key  
94

**A 60 YO man has developed intense pain in his right auricle 2 weeks ago. He was treated with flucloxacillin. However, the pain and**



swelling of the right pinna are progressively worsening with no improvement. There is no Hx of trauma and no hearing loss. He has fever. What is the most likely causative organism?

→ **Pseudomonas aeruginosa**.

## Perichondritis

**Definition:** Is infection and inflammation of the perichondrium of auricular cartilage.

### Causes:

- Infection of haematoma auris.
- Complication of severe otitis externa.
- Laceration, mastoid surgery.
- High ear peircing.

### Clinical Picture:

- The pinna is uniformly enlarged and thickened and its surface is red and shiny.
- Severe pain and tenderness.

### Bacteriology:

*Pseudomonus aeruginosa*



## ▣ Perichondritis Treatment:

✓ Prompt oral antibiotic therapy, typically a **fluoroquinolone**, sometimes with



	<p>an aminoglycoside plus a semisynthetic penicillin</p> <p>✓ For an abscess, prompt incision and drainage.</p> <p><b>For knowledge:</b> The <b>Fluoroquinolone</b> antibiotics include:</p> <p>Ciprofloxacin (Cipro),  Gemifloxacin (Fictive),  Levofloxacin (Levaquin),  Moxifloxacin (Avelox),  and Ofloxacin (Floxin)</p>
Key 95	<p>■ <b>A patient with a suspected Obstructive Sleep Apnea presents to his GP. What should be done?</b></p> <ol style="list-style-type: none"> <li>1) <b>Advise the patient not to drive cars or lorries.</b></li> <li>2) <b>Urgent referral to a sleep clinic</b> “for Dx -polysomnography- and Rx”.</li> </ol> <p>■ <b>When should Driver and Vehicle Licensing Agency (DVLA) be informed?</b></p> <p>✓ If already diagnosed with moderate to severe OSAS, or:  ✓ If diagnosed with mild OSAS with excessive sleepiness not controlled within 3 months.</p>
Key 96	<p><b>A mother is concerned about her 6 YO son as he has had 3 episodes of tonsillitis within the past 6 months. What should be done?</b></p>

→ **Reassure and continue observation.**

He does not meet the SIGN criteria for tonsillectomy.

**Remember:**

Tonsillectomy is indicated in any of the following:

- > 7 episodes of tonsillitis per year for 1 year.
- > 5 episodes per year for 2 years.
- > 3 episodes per year for 3 years.

Key  
97

- Dizziness/Vertigo on Moving head lasts for seconds to minutes

→ **BPPV “Benign Paroxysmal Positional Vertigo”.**

- If **+** Hx of Viral URTI (**without** tinnitus or hearing loss)

→ **Vestibular Neuritis.**

- If **+** Hx of Viral URTI **with** Hearing loss/Tinnitus

→ **Labyrinthitis.**

☐ To relieve vertigo, give → **Prochlorperazine**

	<p>✓ Short course of oral Prochlorperazine.</p> <p>✓ If rapid intervention is required → IV or IM <u>Prochlorperazine</u> or <u>Cyclizine</u>.</p>
Key 98	<p><b>A boy was punched in his face and had nose bleeds for 1 hour. He presented to the A&amp;E and found to be vitally stable with no active bleeding. There is no CSF leakage. The skin over his nose is intact. However, by inspection, it is seen that there is nose deviation to the right side.</b></p> <p>The next appropriate step → <u>Speculum examination of the nasal cavity</u>.</p> <p>This can show: nasal hematoma, site of bleeding, septal deviation, septal perforation.</p> <p>The diagnosis of nasal fracture is generally made on clinical grounds and imaging is usually unnecessary during the initial assessment. The Royal College of Radiologists guidelines state the following: “<b>X-rays are unreliable in the diagnosis of nasal fractures</b> and even when positive do not usually affect patient management. XR or further imaging could be considered only after ENT/maxillofacial assessment, depending on local policy.”</p>
Key 99	<p><u>Toddler</u> age (1-3 YO)</p> <p>+ <u>Unilateral</u> nasal discharge (later on becomes foul-smelling)</p>

	<p>+ No cough or facial pain</p> <p>Think → <b>Foreign body in the nasal cavity</b></p> <p>In <u>chronic</u> sinusitis, there is usually cough, facial pain, and the nasal discharge.</p>
Key 100	<p><b>Hoarseness of voice for &gt; 3 weeks</b></p> <p>→ <b>ENT referral</b> within 2 weeks (suspected laryngeal cancer)</p> <p>Especially if there is Hx of alcohol +/- smoking.</p>
Key 101	<p><b>Allergic rhinitis (nasal congestion, sneezing, rhinorrhea)</b></p> <p>→ <b>Xylometazoline intranasally.</b></p> <p><b>However</b>, this medication <u>SHOULD NOT</u> be used for &gt; 7 days.</p> <p>If used for &gt; 7 days, it can cause rebound nasal congestion.</p> <p>Therefore, if the congestion still exists in a patient who have used Xylometazoline for &gt; 7 days, the first step is to →</p> <p><b>Advise the patient to stop the medication and to have a medicine-free interval</b></p>
Key 102	<p><b>Erythematous bulging tympanic membrane, think → <b>acute otitis media.</b></b></p>

	Note that acute OM could be a complication of URTI such as pharyngitis.
Key 103	<p><b>Headache, Facial pain, Foul smelling nasal discharge, loss of smell, supraorbital pain</b></p> <p>→ Sinusitis ± complications of sinusitis (e.g. periorbital abscess, cellulitis).</p> <p><b>The most appropriate investigation</b></p> <p>→ <b>CT of head and sinuses.</b></p>
Key 104	<p style="text-align: center;"><b>Acute Sinusitis in Points</b></p> <p>■ <b>Presenting features:</b></p> <ul style="list-style-type: none"> <li>• There is usually a Hx of upper respiratory tract infection in the last few days.</li> <li>• Nasal blockage ± discharge</li> <li>• Facial pain or pressure (e.g., <u>cheekbone</u> or periorbital pain ± tenderness, redness, swelling over the affected area).</li> <li>• ↓ smell, headache.</li> </ul> <p>■ The vast majority of acute sinusitis cases are due to <u>viral</u> infections (98%).</p> <p>■ So, they are mostly self-limiting:</p> <ul style="list-style-type: none"> <li>- Symptom's relief is what's needed:</li> </ul>

→ **Nasal decongestant containing ephedrine.** (and/or **Nasal saline**).

→ **Paracetamol/ibuprofen** for fever and facial pain relief.

“Note that as per NICE, **Oral** decongestants are always **invalid** answer”

- However, if the symptoms last for > 10 days without a significant improvement → **Nasal Steroids** can be considered.

■ It is **rarely bacterial (2%)**. Thus, no need to start antibiotics unless necessary.

**Q) When to suspect that it is bacterial and commence antibiotics? (reading)**

- Complicated sinusitis (e.g., systemically unwell patients with features such as periorbital edema or cellulitis or displaced eyeball or diplopia).
- Symptoms that last for > 10 days ☐ Fever > 38 C ☐ purulent or discoloured nasal discharge ☐ unilateral pain with rapid deterioration instead of improvement).

■ If Antibiotics are indicated, prescribe the first line is as follows:

- Phenoxyethylpenicillin.
- If very unwell → co-amoxiclav.
- If penicillin allergic → doxycycline or clarithromycin.

**Example (1):**

**A 30 YO man presents with nasal blockage, headache and cheekbone pain. He has had fever and cough a week ago. His temp. is 37.5. He is penicillin allergic.**

- The likely Dx → **Acute sinusitis**.
- The most appropriate Rx → **Nasal decongestants “contains ephedrine”**.
- Another valid answer for Rx → **Nasal saline**.
- Don’t get tricked by “he is penicillin allergic” and pick clarithromycin or doxycycline.
- As mentioned above, acute sinusitis is mostly viral “also in this stem, he has had a fever and cough a week ago, which means likely viral URTI”.
- This patient needs symptoms relievers as nasal decongestants and analgesics.
- The symptoms have been there for **< 10 days** → nasal steroids is wrong.
- If there are indications for bacterial infections (mentioned above), we would go for an antibiotic.

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**Example (2):**

**A 30 YO woman presents with nasal blockage, frontal headache and facial pressure for the past 2 weeks. She also has reduced sense of smell. Her nasal**

	<p><b>discharge is clear. Her temp. is 37.8.</b></p> <ul style="list-style-type: none"> <li>• The most appropriate Rx → <b>Nasal steroids</b>.</li> <li>• The symptoms have been there for <b>&gt; 10 days</b> and without a significant improvement → consider nasal steroids.</li> <li>• The given features are not yet sufficient to commence an antibiotic.</li> </ul> <p>Remember: to think bacterial sinusitis:</p> <p><b>&gt; 10 days + fever &gt; 38 + purulent nasal discharge + unilateral pain</b></p>
Key 105	<p>Episodes of <b>Vertigo, Tinnitus</b>, fluctuating <b>Hearing loss, Ear pressure</b>  ± nausea and vomiting  → <b>Meniere's disease</b>.</p> <p>■ <b>Management:</b> "<i>careful for the question words, both can be asked</i>"!</p> <ul style="list-style-type: none"> <li>• To terminate the acute attack (Rx during the episodes) → <b>Prochlorperazine</b> (Buccal or IM) or: Promethazine, <b>Cyclizine</b>, Cinnarizine.</li> <li>• To prevent further attacks (↓ the frequency of the episodes) → <b>Betahistine</b>.</li> </ul>
Key 106	<p><b>Itching</b> in the ear, <b>pain</b> in the ear and <b>serous discharge</b> in the auditory canal,  <b>Tender tragus</b> esp. with movement (difficult to examine the ear)</p>



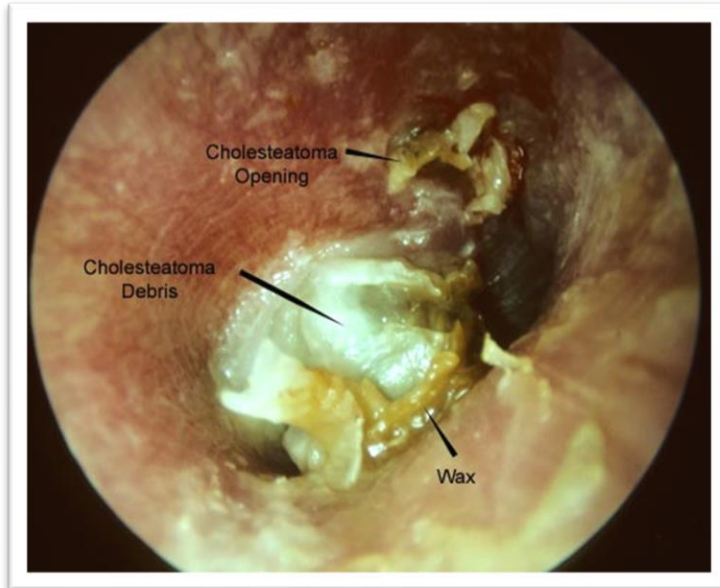
	→ <b>Otitis Externa.</b>
Key 107	<p>One of the important indications for <b>Adeno-tonsillectomy</b> “referral to ENT surgery” is → “<b>Sleep Apnea</b> “effect on sleep”</p> <p>If a child is having recurrent episodes of sore throats, enlarged tonsils/ adenoids, temporary cessation of breathing during sleep</p> <p>→ <b>Refer to ENT surgery for further assessment for adeno-tonsillectomy.</b></p>
108	<p>A child with a piece of toy stuck in his ear. It is difficult to examine using otoscopy, the child is in pain, crying, restless</p> <p>→ <b>Remove under general anaesthesia.</b></p>
Key 109	<p><b>Musical Ear Syndrome (MES)</b></p>  <p>[<b>NON-psychiatric</b> musical auditory hallucination]</p> <ul style="list-style-type: none"> <li>• <b>Hearing music/ sounds without external source</b>, ie, no one is playing music around. It is <b>not</b> a form of psychosis.</li> </ul>

- It is more common in **women > 60** years old.
- It is **different from** *psychiatric* auditory hallucination in the fact that the patient does not hear voices or people talking.
- It is often associated with **tinnitus** and **hearing loss**.
- The exact cause is **unknown**, but we first investigate for and assess hearing loss by **pure-tone audiometry** as it is thought that the brain fills the gaps of hearing loss with these musical sounds.
- Investigations involves **pure-tone audiometry** to assess hearing loss.
- **MES** is a form of auditory hallucination often linked to hearing loss, particularly in older adults. Pure tone audiometry helps assess the extent of hearing loss, which is crucial because hearing impairment is a significant risk factor for auditory hallucinations like MES.
- **Pure tone audiometry** provides quantitative data on the patient's hearing thresholds at various frequencies, which can guide further management. For instance, if the patient is found to have significant hearing loss, interventions such as hearing aids might reduce the symptoms of MES by improving overall hearing function.
- In contrast, an **MRI**, while useful for ruling out central nervous system pathologies, is not the first-line investigation for suspected MES where the primary concern is peripheral hearing loss. Hence, pure tone audiometry is more appropriate in this context.
- There is **no cure** for MES (and since hearing loss is often present, we start by **audiometry** to assess and try to treat hearing loss).

Key  
110

**A patient with a few months left ear discharge that is foul smelling  
+ Decreased hearing (a feeling of blocked left ear) + Recurrent OM.  
+ He used topical and oral antibiotics but without improvements.**

**Otoscope shows:**



**Think → Cholesteatoma.**

**Rx → Urgent referral to ENT (for consideration of surgical removal).**

- **Cholesteatoma** is a collection of keratinizing squamous epithelium in the middle ear that is able to expand, erode and destroy the adjacent structures, causing TM perforation and ossicles damage. It is neither a cholesterol nor a tumour. It is seen as a **Pearly white mass** **BEHIND** the tympanic membrane.
- (**Cholesteatoma is poorly responsive to antibiotics**).

Key  
111

## Benign Paroxysmal Positional Vertigo [BPPV]

- Sudden onset of **vertigo** that is aggravated by a **change in head position** and lasts a few seconds to a few minutes ± Nausea.

“It is important to remember that it lasts only a few seconds – a few minutes”

- Occurs usually during turning over in bed or lying down.
- Kindly note that nystagmus can be seen in BPPV as well.
- **Dx** → Hallpike's Manoeuvre.
- **Rx** → Epley's Manoeuvre = repositioning technique.

“Apply Epley for Treatment”

- N.B. mostly resolves spontaneously.

Benign paroxysmal positioning vertigo (BPPV) is a peripheral vestibular disorder involving the semicircular canal usually but not exclusively the posterior semi-circular canal (PSCC). **Imp v/v**

### Important DDx:

- Dizziness/Vertigo on Moving head lasts for seconds to minutes → **BPPV**.
- If + Hx of Viral URTI → **Vestibular Neuritis**.
- If + Hx of Viral URTI + Hearing loss/Tinnitus → **Labyrinthitis**.

### Another Summary:

- Vertigo + Hx of Common cold → **Vestibular neuritis**.
- Vertigo + Hx of Common cold + Hearing loss/Tinnitus → **Labyrinthitis**.
- Vertigo on moving head that lasts for seconds WITHOUT Hx of Common cold → **Benign Paroxysmal Positional Vertigo**.
- DVT + Fullness (**D**eafness, **V**ertigo, **T**innitus) + Pressure or Fullness in one ear → **Meniere's disease** (MRI is normal).
- DVT + Cranial Nerve Palsy (e.g. Facial palsy, Loss of Corneal reflex, Loss of facial sensation) → **Acoustic Neuroma** (Do **MRI** of the cerebellopontine angle).

Key  
112

### Down Syndrome and Otitis Media with Effusion [OME]

- Children with down syndrome are susceptible to OME (or glue ear).
- Some of the features:
  - ✓ **diffuse light reflex on tympanic membranes** (or sometimes **absent** light reflex).
  - ✓ **Sits close to the TV**.
  - ✓ **They lack response when people talk to them** (not hearing very well).
- Children with down syndrome need **yearly hearing check** using:

→ **Pure tone audiometry**.

This is because they have a higher risk of middle ear pathology and early onset hearing loss.

Remember:

## Hearing Tests in Children

- **Below 6 Months:** - **Otoacoustic Emissions** (OAE), or:  
- **Audiological Brainstem Responses** (ABR)
- **6 Months – 18 Months** → **Distraction Testing**
- **2-4 Years:** - **Speech Discrimination**, or:  
- **Conditioned Response Audiometry** (CRA)
- **5 years** → **Pure Tone Audiogram** (PTA)

### More clarification on Rx of OME (Important):

■ Note that if it is obvious that the child is having hearing loss (eg, he gets close to the TV, he raises the TV volume) then there is a concern for hearing loss. Therefore, **pure tone audiometry** is needed (without a delay for 3 months). We need audiometry to determine the severity of the CHL.

• If the conductive hearing loss (CHL) is not severe (based on the audiometry results) → then **3 months is given and then review with another audiogram**.

	<ul style="list-style-type: none"> <li>• After 3 months, review with another audiometry:</li> </ul> <p>If spontaneous resolve occurs, then that's good. But if hearing loss becomes more severe, then <b>refer to ENT for consideration of grommets insertion</b>.</p> <ul style="list-style-type: none"> <li>• Always encourage the parents to <b>stop smoking</b> as it is an important risk factor for their children's glue ear.</li> </ul>
Key 113	<p><b>Old</b></p> <ul style="list-style-type: none"> <li>+ <b>Inability to hear sound in a noisy environment</b></li> <li>+ <b>Difficulty to comprehend speech as they sound muffled</b></li> <li>+ <b>bilateral sensorineural hearing loss (SNHL)</b></li> </ul> <p>Think → <b>Presbycusis</b>.</p>
Key 114	<p><b>After adenoidectomy, a child is bleeding heavily from mouth and nose for 12 hours now:</b></p> <p>→ <b>Re-explore under general anaesthesia</b>.</p> <p>Nasal cautery and anterior nasal tampons are not beneficial here as the bleeding is posterior (not from anterior visible nasal vessels).</p>

**Remember:****Types of Surgical Bleeding**

<b>Primary hemorrhage</b>	Bleeding at the time of surgery.	Rx: Replacing Blood or return to theatre if severe.
<b>Reactionary hemorrhage</b>	Bleeding within 24 hours after surgery/ Trauma.  e.g., a patient bleeding and hypotensive while in the recovery room.	Usually due to slipping of ligatures, dislodgement of clots, warming up post-op leading to vasodilatation and rising of BP to normal.  Rx: Replacing blood, wound re-exploration.
<b>Secondary hemorrhage</b>	1 to 2 weeks post-op	Usually due to necrosis of blood vessels related to the previous repair, and precipitated by wound INFECTION.  The patient may require admission and IV antibiotics.



<p>Key 115</p>	<ul style="list-style-type: none"> <li>• A child with recurrent bleeding especially when he picks his nose.</li> <li>• Presented to the ER.</li> <li>• There is still active bleeding for 30 minutes. However, the active <b>bleeding is minimal</b> (only after picking his nose or sometimes after coughing).</li> <li>• Rhinoscopy could <b>locate the bleeding point (in the little area)</b></li> <li>• First aids have failed to stop bleeding</li> </ul> <p>→ <b>Nasal cautery with silver nitrate</b>.</p> <p>(As the bleeding point can be seen and the bleeding is minimal – after nose picking, silver nitrate cautery is tried first. If failed, or of heavy bleeding, or if the bleeding point cannot be seen → nasal packing).</p>
<p>Key 116</p>	<p><b>Nasal Polyps</b></p> <ul style="list-style-type: none"> <li>• They may cause → ↓ smell sense, difficult breathing through nostrils.</li> <li>• <b>Management:</b></li> </ul> <p>✓ <b>Nasal steroids</b> (can be used to shrink nasal polyps). (<b>important</b>).</p> <p>✓ If fails → Oral steroids, nasal polypectomy.</p>
<p>Key 117</p>	<p><b>Acute Mastoiditis</b></p> <p>📌 <b>Presentations:</b></p>

- Post-auricular “behind ear” severe pain, swelling and edema.
- ± Loss of post-auricular sulcus.
- Ear problem (on the affected side) → ↓ hearing, foul discharge, pain.
- General → Fever, headache.

### Management:

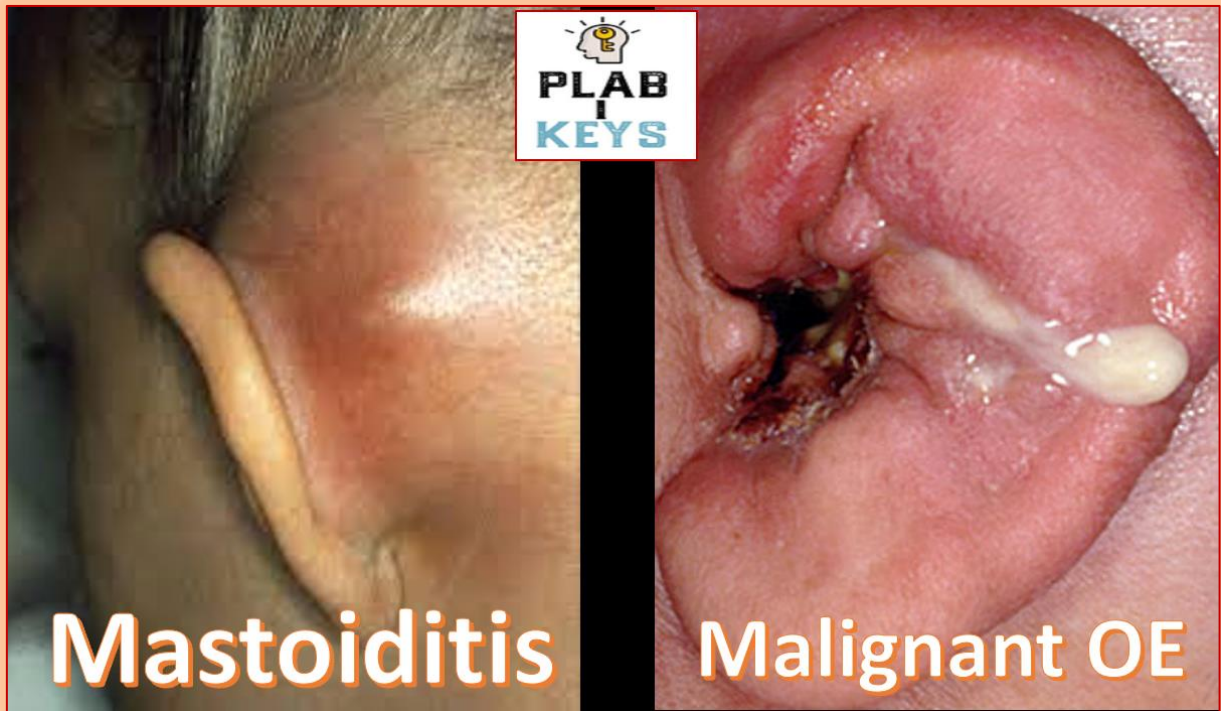
- If ear discharge is present → take swabs.
- Then → the **most appropriate initial** step to do is to start  
→ IV antibiotics (not oral!). (important). “IV antibiotics and admit for observation”.
- If **no response** to IV antibiotics after 24 hours, or if **abscess** is suspected  
→ CT scan of petrous bone and brain.

### Important comparison notes:

• The presentation of acute mastoiditis is similar to malignant otitis externa. However, in malignant otitis externa, there is **no** post-auricular swelling and erythema. And, there is **no** loss of post-auricular sulcus. The remaining features can be seen (ear pain, foul discharge, ↓ hearing, fever).

- If the case is malignant otitis externa → Refer urgently to ENT.

Also, we do CT scan of temporal bones first, then we initiate IV antibiotics.



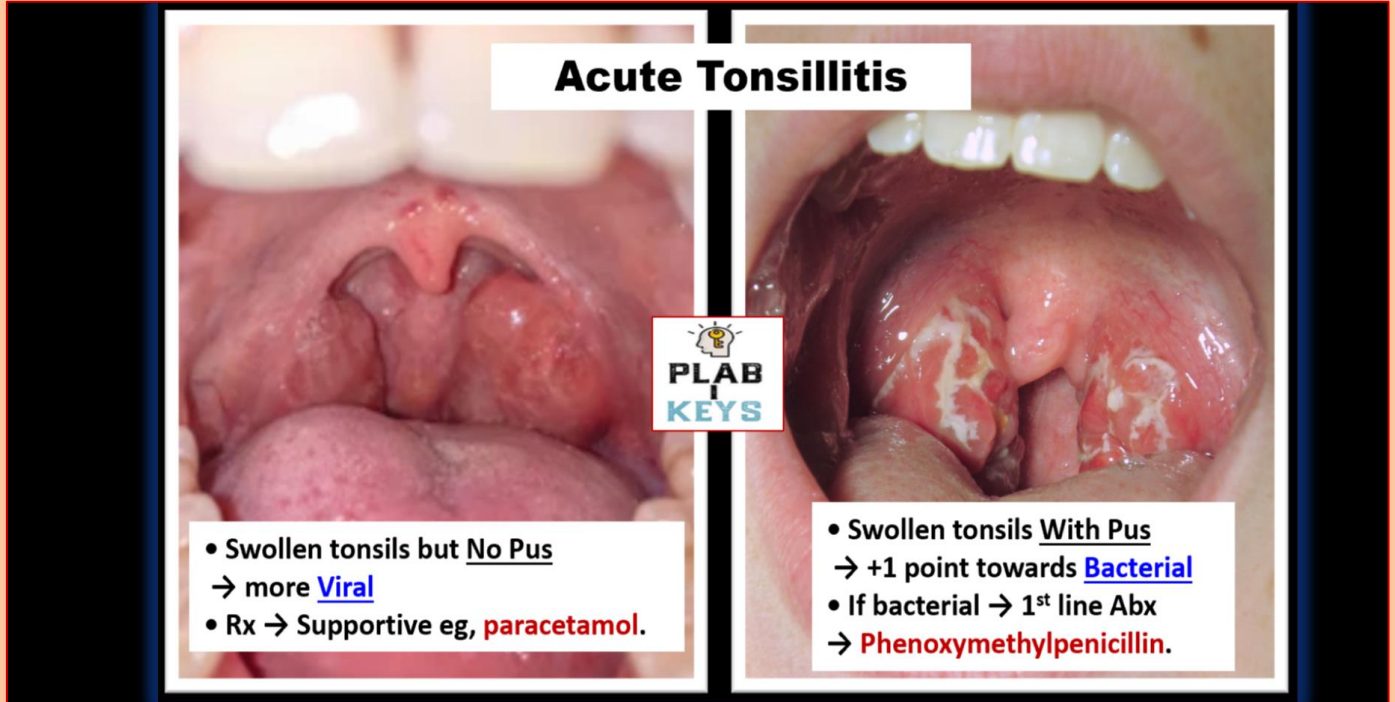
### Example:

A 54-year-old man who is on corticosteroids for renal transplant presents complaining of left ear pain, hearing reduction, and foul discharge that started a few days ago. He also has headache and a fever of 38.6. On examination, there is post-auricular swelling and edema and a loss of post-auricular sulcus. What is the most appropriate management?

→ **IV antibiotics.**

(This is a case of **acute mastoiditis**. Take swabs of the ear discharge and commence **IV antibiotics**. **CT scan** of petrous bone is done if abscess is suspected or if there is no response to IV antibiotics after 24 hours).

## Key 118 Review on Acute Tonsillitis Management



**Centor Criteria:** (help to differentiate **viral** and **bacteria** tonsilitis)

(1) **Fever > 38**. (2) **Tender and Enlarged Anterior cervical LNs**. (3) **Tonsillar exudates/pus**. (4) **No cough**.  
(Associated cough is more towards viral).

- If <3 → **Viral** (most cases) → Supportive management (eg, paracetamol).
- if ≥3 → **Bacterial** we give Antibiotics (Phenoxymethylpenicillin = Penicillin V).

## Key 119 Important Scenarios on Hearing Loss Causes

- **Presbycusis**: elderly, Sensorineural, difficulty hearing in a noisy

environment. (High frequency hearing loss).

- **Otosclerosis**: **Young Adult, Conductive**, Difficulty hearing in a quiet environment (e.g., on the phone) (Low frequency hearing loss), i.e., the patient hears better in a noisy environment. ± **Family Hx**.

**Remember that:**

- **OME (glue ear)** → bilat. **Conductive** HL, occurs in children.
- **Otosclerosis** → **Conductive** HL, occurs in young adults.
- **Wax buildup** → **Conductive** HL
- **Presbycusis** → **SNHL**, seen in the elderly.
- **Acoustic Neuroma** → **SNHL** + Other manifestations (eg, Vertigo, facial palsy, diplopia, loss of corneal reflex).
- **Meniere's disease** → **SNHL** + Other manifestations (eg, Vertigo, feeling of fullness or pressure in the involved ear).

**Remember:**

**Rennie's test** that shows:

- ✓ Bone conduction better than air conduction → **Conductive** HL.
- ✓ Air conduction better than bone conduction → **Sensorineural** HL.

**Scenario 1**: a 40 Y/O man, with bilateral conductive hearing loss, finds it difficult to hear while on the phone (in a quiet environment), His father has the

same issue.

→ **Otosclerosis**.

Young + Cannot hear well in quiet environment + CHL → think otosclerosis.

### Scenario 2

An elderly man who cannot hear well in a noisy environment. His Rennie's test shows Air conduction better than bone conduction.

The likely Dx → **Presbycusis**.

Since  $AC > BC$  → is a case of Sensorineural hearing loss (SNHL).

Therefore: Old + Cannot hear well in noise + SNHL → think presbycusis.

### Scenario 3

An elderly man who cannot hear well in a noisy environment. His Rennie's test shows Bone conduction better than air conduction. His both ear canals show wax build-up.

The likely Dx → **Wax obstruction** (Not Presbycusis).

Since  $BC > AC$  → is a case of conductive hearing loss, not SNHL.

Therefore, wax obstruction (which is one of the causes of CHL) and not presbycusis (which is one of the causes of SNHL).

<p>Key 120</p>	<p><b>(Recently Asked):</b></p> <p><b>In a case of peritonsillar abscess (worsening sore throat, high fever, large unilateral swelling of the soft palate) if 2 valid answers were given in options:</b></p> <p>A) IV antibiotics (IV benzyl penicillin/ Phenoxymethylpenicillin). <b>OR:</b></p> <p>B) Incision and drainage.</p> <p><b>What to choose?</b> → Look at the <u>question phrase</u>:</p> <ul style="list-style-type: none"> <li>• If it asks about the (<b>initial</b>) step → IV antibiotics.</li> <li>• If it asks about the (<b>most appropriate</b>) Rx → incision and drainage.</li> </ul>
<p>Key 121</p>	<p><b>A recent question about conductive/ sensorineural hearing loss:</b></p> <p>A 24-year-old pregnant woman (31 weeks gestation) has been having gradual hearing loss over the past month. Her eardrums look normal on otoscopy. Hearing tests show bone conduction (BC) is better than air conduction (AC) in both ears. What is the most likely cause of her gradual hearing loss?</p> <p>A) Early-onset presbycusis.</p> <p>B) Meniere's disease.</p> <p>C) Otitis media.</p> <p>D) Tympanosclerosis.</p>

## E) Otosclerosis.

▣ Since **BC > AC** in both ears

→ Bilateral **conductive hearing loss (CHL)**.

- Both options A and B (**Presbycusis** and **Meniere's**) are causes of **sensorineural** not conductive hearing loss → **wrong**.

- The remaining options are causes of conductive hearing loss, let's see:

✓ **Otitis media**: there is no features of infection in the stem. Also, eardrums are normal → **wrong**.

✓ **Tympanosclerosis** → it is characterized by **Chalky white patches** over the eardrum. Here, the eardrums are normal → **wrong**.

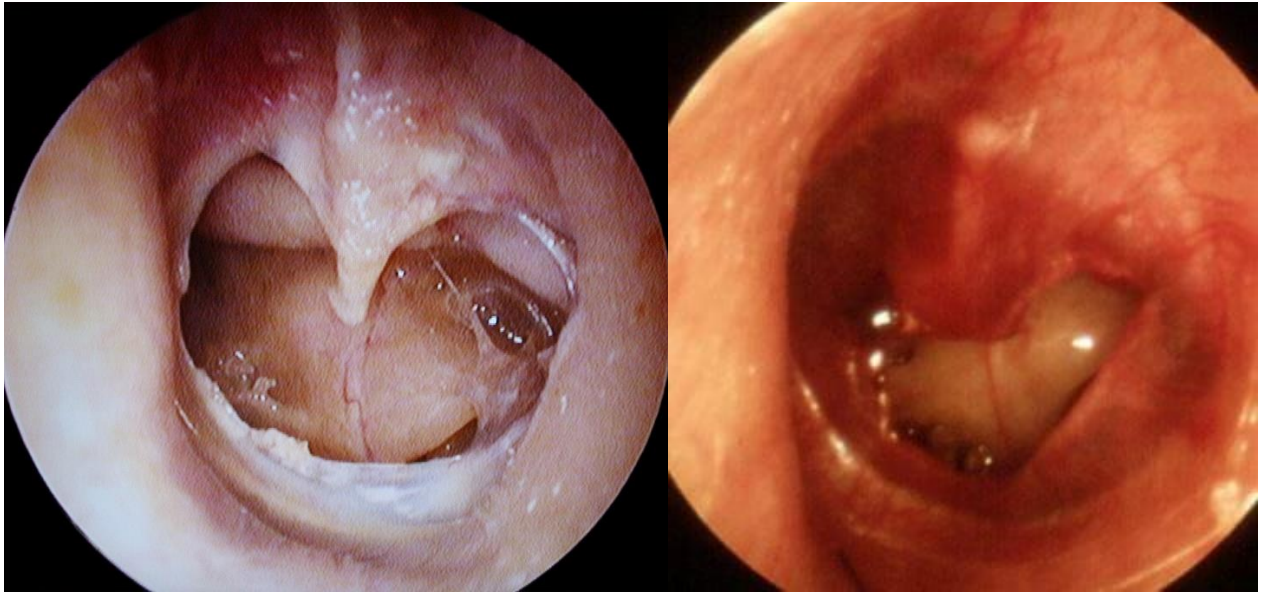
✓ **Otosclerosis**: it is the only option left, it is a cause of conductive hearing loss, it is accelerated by **pregnancy** (given as a hint) → **Right** answer.

So, the answer is → **E (Otosclerosis)**.



Key  
122

## Notes on Tympanic Membrane Rupture (Perforated Eardrum):



- TM perforations have multiple origins such as a complication of infection (acute otitis media or otitis externa secondary to *Aspergillus Niger*), barotrauma from explosions, scuba diving, or air travel, sudden negative pressure, head trauma, noise trauma, insertion of objects into the ear, or iatrogenic from attempting foreign body or cerumen removal.
- One may feel a pain in his ear for a few days (before rupture).
- Once tympanic membrane rupture occurs, **the pain is relieved**, and a **small amount of discharge may come out**.
- After rupture → **↓ hearing**.
- **Management (important):**
  - ✓ **Reassure and review in 6 weeks** (as it usually heals on its own in 6 weeks).
  - ✓ If bacterial infection is suspected → prescribe **antibiotics**.
  - ✓ If it does not heal by itself → **Tympanoplasty** (TM repair procedure).

<p>Key 123</p>	<p><b>Quick Points on Management:</b></p> <p>▣ <b>Acute Mastoiditis</b> (Swelling behind ear, tenderness over mastoid process, protruded pinna, otalgia, fever).</p> <p>→ <b>IV antibiotics</b> (not oral; it is severe and can lead to intracranial complications).</p> <p>▣ <b>Malignant otitis externa</b> (Severe pain in the ear, purulent foul discharge, conductive hearing loss).</p> <p>→ <b>Urgent ENT referral and CT scan of temporal bone.</b></p> <p>▣ <b>Acute sinusitis</b> (Nasal congestion, facial pain and pressure, reduced smell, fever, ± tenderness over frontal, maxillary sinuses). (Mostly Viral).</p> <p>→ <b>Oral paracetamol.</b> (Supportive: for fever, pain, inflammation).</p> <p>If persists 10 or more days without improvement → <b>Nasal corticosteroids.</b></p>
<p>Key 124</p>	<p><b>Hearing Tests in Babies &lt; 6 months:</b></p> <ul style="list-style-type: none"> <li>• <b>OAE</b> (Otoacoustic emission) test.</li> <li>• <b>ABR</b> (Auditory brainstem response) test.</li> </ul> <p><b>Note:</b> If a baby tested normal for OAE but his family still has concerns (eg, for the presence of family history of hearing loss)</p> <p>→ <b>Go for ABR as well.</b></p>

Key 125	<p><b>Remember that:</b></p> <ul style="list-style-type: none"> <li>• <b>Ear wax</b> (cerumen impaction) can cause → unilateral <b>conductive hearing loss</b>.</li> <li>• In <b>conductive hearing loss (CHL)</b>:             <p><b>Rinne's test</b> (when placing the vibrating fork over the mastoid bone and then around 1 cm from the ear).</p> <p>→ Bone conduction (BC) is greater than air conduction (AC) in the affected side.</p> <p><b>Weber's Test</b> (when placing the fork on the middle of the forehead):</p> <p>→ The sound lateralizes to the affected side (the abnormal ear).</p> </li> </ul> <hr/> <p><b>An Important Note on hearing loss caused by prolonged exposure to a loud noisy environment (eg, working in a loud machinery plant)</b></p> <p>→ <b>Noise-induced hearing loss</b> is a <b>sensorineural hearing loss (SNHL)</b>, and it typically affects <b>both ears</b> not one.</p>
Key 126	<p><b>Foreign Body in Nose "Children":</b></p> <ul style="list-style-type: none"> <li>• Persistent "long-lasting" <b>discharge</b> from "one" nostril.</li> <li>• The discharge is usually <b>coloured "eg, greenish"</b> and <b>foul-smelling</b> "due to irritation and possible secondary bacterial infection around the foreign body".</li> </ul>

Key  
127**Quick Scenario on a Previous Topic:****A 44-year-old woman presents to the A&E with:**

- Severe persistent pain behind her right ear that has been present for 2 weeks.
- The symptoms started with a sore throat and a feeling of fullness in her right ear that initially improved with oral antibiotics.
- Over the last few days, she has developed a fever, the pain has intensified, with some ear discharge.
- There is redness, swelling, and tenderness behind her right ear.
- The tympanic membrane is not visible due to edema of the external auditory canal.

**What is the most appropriate next step in management?**✓ This is likely a case of **mastoiditis**.

✓ Mastoiditis is a severe infection. Its complications can include meningitis, brain abscess, lateral sinus thrombosis. Therefore, IV antibiotics are important initially.

✓ So, the answer is:

→ Give intravenous “not oral” antibiotics and admit the patient for observation.

✓ If no response within 24 hrs, or abscess → CT scan of petrous bone. “Not MRI”.

✓ Do not confuse acute mastoiditis with malignant -necrotising- otitis externa. In malignant otitis externa → refer urgently to ENT and CT of the temporal bones.

### ☐ Important comparison notes:

• The presentation of **acute mastoiditis** is similar to **malignant otitis externa**. However, in malignant otitis externa, there is **no** post-auricular swelling and erythema. And, there is **no** loss of post-auricular sulcus. The remaining features can be seen (ear pain, foul discharge, ↓hearing, fever).

• If the case is malignant otitis externa → **Refer urgently to ENT**.

Also, we do **CT scan** of temporal bones first, **then** we **initiate IV antibiotics**.

Key  
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### Chronic long-lasting hoarseness

→ **Refer to ENT “otolaryngologist”**.

This is to rule out laryngeal pathology such as laryngeal cancer, particularly if there is a history of smoking.

Key  
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### Quick Notes:

• Patients suspected of having obstructive sleep apnea (OSA) should be:

→ **Advised to stop “cease” car and lorry driving until an assessment is made.**

• If diagnosed of having obstructive sleep apnea OSA “by polysomnography”

→ **Advise the patient to inform DVLA** (Driver and Vehicle Licensing Agency).

If they refused → **Inform DVLA on their behalf.**

Key  
130**Acute Sinusitis****■ The most frequent symptoms of acute sinusitis are:**

Nasal congestion/ blockage - Facial pain and pressure eg, cheekbones pain -  
 Clear or yellow or green nasal discharge - Reduced sense of smell - Headache -  
 Low-grade fever - A history of a recent upper respiratory tract infection.

**■ Key Points on Acute Sinusitis Management:**

✓ First-line → **Oral paracetamol or Ibuprofen**. ✓ (To alleviate pain and fever).

*Other additional lines for symptomatic relief: Nasal Decongestants (used short-term, eg, **nasal pseudoephedrine**, oxymetazoline). Saline Nasal Irrigation.*

✓ If the episode lasted  $\geq 10$  days without improvement → **Nasal steroids**.

*An example of nasal corticosteroid → Fluticasone nasal spray.*

✓ Antibiotics are rarely used. (The vast majority of cases are viral).

**■ When to use antibiotics in acute sinusitis? (rare).**

• Antibiotics are used in acute sinusitis if it is bacterial “rare”, suggested by the long duration of symptoms ( $>10$  days) + initial improvement followed by worsening of symptom (ie, double-sickening) + severe fever and purulent thick nasal discharge. In viral, the discharge is usually clear thin.

- The first-line antibiotic is usually **phenoxymethylpenicillin** (penicillin V). If there is no improvement or if the patient is allergic to penicillin, alternatives such as **doxycycline**, or **clarithromycin** may be used.

Key  
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### ENT Revision Scenario

A 35-year-old man presents to the ENT clinic complaining of persistent left-sided nasal discharge, which he describes as yellow-greenish and foul-smelling. The symptoms have been intermittent for the past four months. He has noticed temporary relief after completing several courses of antibiotics, but the discharge returns shortly after. Upon examination, the left nasal passage shows swelling and erythema. What is the most appropriate next step in managing this patient's condition?

- A) X-ray sinuses.
- B) Nasal swabs.
- C) CT head.
- D) Nasendoscopy.
- E) MRI head.

The correct answer is **D) Nasendoscopy**.

**Explanations:**

- **Nasendoscopy (or: Nasal Endoscopy)** is the most appropriate step because it allows direct examination of the nasal passages, sinuses, and other surrounding structures. This helps identify structural issues, such as polyps, masses, or obstructions, which could be causing recurrent infections. It also allows for biopsy if needed.
- **CT head** is primarily used for brain and skull pathology (e.g., trauma). It is incorrect here because the issue is likely sinus-related. If imaging is required, a **CT scan of the sinuses** (CT PNS) is preferred, as it focuses on the paranasal sinuses and nasal structures. It is the ideal method for assessing sinus disease and anatomical abnormalities.
- **MRI head** is mainly used to examine the brain and central nervous system structures. It does not specifically focus on the sinuses or nasal passages, so it is not the best choice for this case.
- **Nasal swabs** can identify infection-causing pathogens, but in cases of recurring symptoms after antibiotic use, structural issues are more likely. Swabs alone will not reveal the underlying cause if the problem is more chronic or structural.



- **X-rays** are not used for chronic sinusitis because they lack the detail required to evaluate sinus pathology, unlike CT scans, which provide a clearer picture of sinus issues.

### Remember that:

#### ☐ **Recurrent unilateral nasal discharge:**

When a patient has **recurrent nasal discharge on one side**, it is important to think about possible causes like **nasal polyps** or a **tumour**. The best way to investigate this is by performing → a **nasendoscopy (nasal endoscopy)**, which allows the doctor to directly look at the nasal passages and sinuses for any abnormalities.

#### ☐ **Recurrent rhinosinusitis:**

In cases of **recurrent rhinosinusitis** (chronic sinus inflammation or infection), the most appropriate imaging test is a **CT scan of the paranasal sinuses (CT PNS)**. This scan gives a detailed view of the sinuses, helping to identify blockages, polyps, or structural issues causing the recurring symptoms.

#### ☐ **Acoustic neuroma:**

If there is a suspicion of an **acoustic neuroma** (a benign tumour on the nerve

	responsible for hearing and balance), the best test is <b>an MRI of the cerebellopontine angle (MRI CPA)</b> . This type of MRI is focused on the area where these tumours typically develop, providing a clear and detailed view for diagnosis.